CATALOGUE

WITH FULL DESCRIPTION

OF

AGRICULTURAL & HORTICULTURAL

IMPLEMENTS,

AT

MAYHER & CO'S

UNITED STATES AGRICULTURAL WAREHOUSE
AND SEED STORE,
197 Water-street, near Fulton-st, New York.

ELEVENTH EDITION.

NEW YORK:
BAKER GODWIN & CO., PRINTERS
CORNER OF NASSAU AND SPRUCE STREETS,
1854.

NOTICE TO PURCHASERS.

Orders for goods, addressed to MAYHER & Co., POST-PAID, accompanied with the money, or a draft, or acceptance, on some responsible house in this city, or other commercial city of the Union, will meet with the promptest attention.

All directions should be written out fully, clearly, and legibly, to prevent mistakes and avoid delay.

All orders for goods for farm or plantation use, which are not strictly in our line of business, will be purchased and forwarded at the most reasonable rates.

Insurances effected when required.

ADVERTISEMENT.

In presenting the annexed brief Catalogue to the public the proprietors beg leave to offer their thanks for the patronage they have received during the many years they have been engaged in the Agricultural Implement department, and trust the confidence already extended will remain unabated, as shall their endeavors to present them with the various improvements of the age, for the promotion of the Farmer's interest.

The business of the husbandman is now considered the most important and dignified of all employments; and in order to obtain its performance with as much saving of expense and labor as possible, not only to man but also to beast, the mechanic has taxed his ingenuity, from time to time, to find means wherewith to meet their wishes. We find upon reviewing the past twenty or thirty years, that the old, clumsy, unwieldy wooden Ploughs then in use, which required the united efforts of four or five yokes of oxen and two or three men to turn a medium-sized furrow, is now superseded by the light-running and graceful cast-iron Plough, which performs the same amount of labor with one yoke of oxen and one man, in a more thorough and effectual manner.

The proprietors, for a long while sensible of the wants of the farming community and the demand for such Ploughs as would save a great amount of time and labor, turned their attention principally to that important instrument, and from year to year have presented the public with the fruits of their labor, in the various models of the Centre-Draught Eagle Improved Ploughs, with such improvements as observation and experience in the field would suggest to the mind.

These ploughs have been extensively used far and near, and their merits fully attested by those who have had an opportunity of examining them while in operation. So admirably have they performed their work as often to call forth the remark, that "they seemed like a thing of life."

The universal preference which they have everywhere obtained has induced many individuals to imitate them, or parts of them—thus striving to reap advantages which have been obtained by persevering industry, and the trying labor of many years. Yet such attempts have only proved the superiority of the centre-draught principle over all others.

Farmers, Planters, Gardeners, and Dealers, will find the largest and most complete assortment of all kinds of Agricultural Implements ever offered for sale in New York, at the United States Agricultural Ware house, 197 Water-street. Among the collection may be found upwards of 150 different patterns and sizes of Ploughs, adapted to all the various

kinds of soil and modes of culture, together with the celebrated Eagle Improved Plough, which was awarded the highest Premium (a silver Pitcher) by the American Institute, at the late Ploughing Match, for doing the best work with the lightest draught. Field and Garden Rollers, both of wood and cast-iron, for pulverizing the ground; Cultivators with steel and cast-iron teeth; Horse Powers made both of wood and iron, very strong, and of a superior quality; Threshing-machines, for threshing wheat, rice, oats, and all kinds of grain; Corn Mills, which can be operated by hand, or any other kind of power, and which will grind from three to five bushels of good fine meal per hour; Vegetable Cutters, for cutting all kinds of vegetables for cattle; Grain Cradles, Scythes, Harrows, Wheelbarrows, Ox Carts, Mule Carts, Wagons, Ox Yokes and Bows, Hay, Straw, Shuck and Stalk Cutters, of various prices and patterns; Fanning Mills for cleaning all kinds of grain, seed and rice; Cotton Gins, of the most improved patterns; Smut Machines, for cleaning smut from wheat, and all kinds of grain; Rice Hullers; Corn Shellers, both for hand and horse power.

Orders for Field or Garden Seeds, of every variety; Winter and Spring Wheat, Oats, Rye, Barley, &c., &c.: Fruit and Ornamental Trees, and Shrubs. The above article will be procured from the best collections in the country. Bone Dust, Plaster of Paris, Guano, &c., &c.; Well and Cistern Pumps, of all descriptions. In a word, every kind of Agricultural Implement, necessary either for the field or garden, may be found at

MAYHER & Co's

UNITED STATES AGRICULTURAL WAREHOUSE, 197 WATER-ST, N. Y.

Les Fermiers, les Planteurs, les Jardiniers, les Agriculteurs de tout genre, et les commerçans sont avertis qui'ls trouveront au *Magasin Agriculturel des Etats Unis*, 197 *Water-street*, l'assortiment le plus complèt qui ait jamais été offert, á la vente, dans la ville de New York, en toutes genres d'instruments aratoires. Dans cette collection, se trouvent plus de 150 différens modèles de charrue, adaptés á toutes les qualitès de *sol* et aux divers modes de culture; y compris aussi la célèbre charrue nommée L'aiglé, charrue perfectionnée ;' cette charrue ayant remporté la premier prix, (une churche d'argent) á la derniere lutte de laboureurs que á eu lieu, en prisence de L'Institute Américaine ayant éte trouvée faire le mielleur travail et opérar avec le moins d'effort des cylindres en bois ou en fonte pour champs ou jardins, propres á pulvériser le terroir—des *cultivateurs* avec dents en acier ou en fer—des machines, puissances de cheval, en bois ou en fer faites d'une manière solide et d'une qualité supérieure aussi des machines á battre le bled, le ris, l'avoine et toutes sortes de grains des moulins à *mais* que puevent se mouvoir, à bras, ou par toute autre force et sont capables de moudre de 3 à 5 bosseaux de farine fine par heure, des instrumens tranchans montés pour *hacher* toutes sortes de végétaux pour le bétail des faucilles à grain, des faulx, des herses, des brouettes, des chars à boeufs ou à mules des chariots, des *jougs* ou accouplemens pour boeufs, des couteaux à couper le foin, la paille, les enveloppes et cannes de maïs, and faits sur divers patrons et de différens prix, des moulins á vanner pour toutes sortes de grains, de sémences et pour le ris des moulins à coton, dans les modèles les plus perfectionnés, des machines pour extraire la saleté et les impureté du bled ou de tout autre grain, et susceptibles d'être mises en œuvre manualment ou par force de cheval.

Seront éxecutés promptement toutes commandes donées pour sémences, de toutes variétés. Soit pour les champs, soit pour jardins—sémences du bled, pour l'hiver ou pour le printems—sémences d'avoines de seigle, d'orge, &c., &c.—aussi pour abres à fruit ou d'ornement, pour arbustes et arbrisseaux.—Les articles mentionnés ci-dessus seront choisis parmi les meilleures collections qui'l peut y avoir dans le pays. La poussière d'os, le plâtre de Paris, le *Guano*, &c.; les pompes pour puits ou pour citernes, et en fin toutes espèces de muebles au d'instruments nécessaiaes pour la culture soit du champ ou du jardin *se trouvent* chez.

MAYHER & Co.,

UNITED STATES AGRICULTURAL WAREHOUSE, 197 WATER-ST., N. Y.

Dem hiesigen Deutschen Publikum,

insbesondere aber Landleuten, Gärtnern und Kaufleuten erlaubt sich Unterzeichneter die ergebene Anzeige zu machen, daß in ihrem landwirthschaftlichen Waarenhaus, 197 Water Street, fortwährend ein vollständiges Assortiment aller zum Ackerbau nöthigen Werkzeuge zum Verkauf stehen. Die Auswahl in dieser Beziehung ist so groß, daß über 150 verschiedene Pflüge dem resp. Käufer vorgelegt werden, deren praktische Anwendung um so weniger zu bezweifeln ist, als ihnen von amerikanischen Instituten die höchste Prämie, ein silberner Becher, als Anerkennung ihrer Tauglichkeit, verliehen wurde

Außerdem sind Walzen aller Art von Holz und Eisen, Dreschmaschinen, Kornmühlen, Schneidemaschinen, Eggen, Sensen, Karren, Joche, Kornsiebe, Windmühlen-Apparate, Baumwollenmaschinen in jeder beliebigen Form und Größe, vorräthig; auch führen wir Feld- und Gartensaamen, sowie Obstbäume und eine Auswahl anderer veredelter Bäume.

Zugleich sind wir mit den vorzüglichsten Bewässerungsapparaten, sowie mit jeder Art Dung als Guano, Panser Gips, Knochenstaub versehen, und glauben uns einem landwirthschaftlichen Publikum in jeder Beziehung empfehlen zu dürfen.

Mayher & Co.
197 Water Street, New York.

AGRICULTURAL IMPLEMENTS.

PLOUGHS.

This most important implement of agriculture has been greatly improved within a few years past. The substitution of cast-iron in their construction for the materials formerly in use has contributed much to this improvement. Besides, the best shape and adaptation to their wants, as well as accommodation to friction and draught, have been successfully considered by our ablest mechanics and inventors. The results of their labors are to be found at the UNITED STATES AGRICULTURAL WAREHOUSE, in more than fifty different kinds of ploughs—such as the Subsoil, the Root-breaker, the Sward, the Prairie, the Meadow, the Horizontal, the Side-Hill, the Ditching, Paring, Trenching, the Double Mould-board, the Sugar-cane, Rice, Cotton, Corn-stubble, the Self-sharpener and Center-draught Ploughs, &c. These are of different sizes, and suitable for all kinds of soil, with the Scotch or old-fashioned clevis, or crane clevis, that will enable them to run close by the side of a fence, and numerous other adaptations that do not require to be detailed here. Prices from $2 to $20.

In adapting these ploughs to their various purposes, (with their simplicity of construction,) will require no special directions.

The implements kept in the U. S. Agricultural Warehouse embrace a great variety of Harrows, Horse Powers, Threshing Machines, Corn Mills, Corn-Stalk, Straw and Hay Cutters, &c., for a description of some of which see the following catalogue. These implements are mostly made up from *new and highly-improved patterns*, warranted to be of the best materials, put together in the strongest manner, and of a very superior finish.

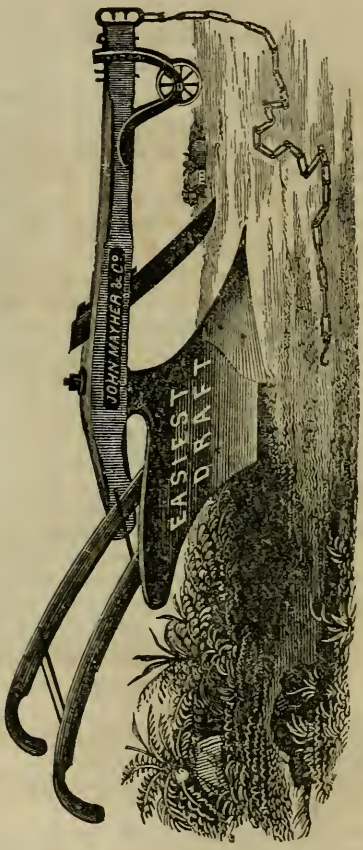
Castings, Skeleton Ploughs, Harrow Teeth, and Iron Work of all kinds done to order in the cheapest and best manner.

Wire Cloth and Sieves of different kinds and sizes kept constantly on hand.

We have of Agricultural Implements the largest and most complete assortment to be found in the United States, and respectfully invite the public to call and judge for themselves. To give some idea of their establishment, and to save replies to numerou, questions, they issue this catalogue, which will be distributed GRATIS wherever wanted. Applications to be made post free.

Among other implements we should not omit to notice our own, Mayher & Co's) CENTER-DRAUGHT PLOUGH, EAGLE D, which received the Premium at the Fair of the American Institute, October 14, 1847 and 1848; and for the good execution of its work, the diminished power required, and the abatement of friction it is unsurpassed by any plough in the market.

Mayher & Co's Celebrated and Unsurpassed Center-draught Improved Eagle D.



HIGHEST PREMIUM PLOUGH.

Fig. 1 represents **Eagle Ploughs C, D,** or **F,** with wrought coulter, laid with steel—also a wheel—which plough is well adapted to green-sward ploughing.

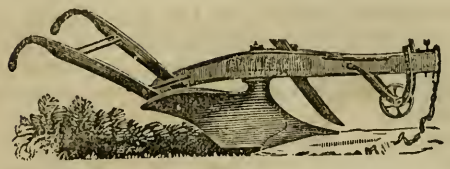


FIG. 1.

Fig. 2 represents the **Eagle Plough C, D,** or **F,** with Fin-Cutter Share, without Coulter through the beam, which is well adapted for stubble ground, or Southern ground ploughing.

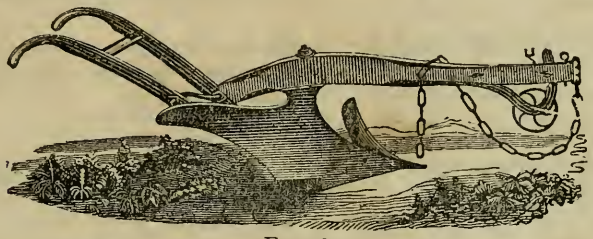


FIG. 2.

Fig. 3 represents the **Eagle Plough D, F,** and **C, L,** with Lock-Coulter, which is made of wrought iron laid with steel, and fastened to the share, which makes it very strong and durable. It also represents the Draught-Rod which strengthens the beam, and gives the plough great strength, and makes it just the thing to be used among roots, rocks, or for ploughing newly-cleared land, as the Coulter cannot be forced from its position on the share. We have Cutter-shares to fit the Eagle A and B plough; also can put in the wrought coulter if desired.

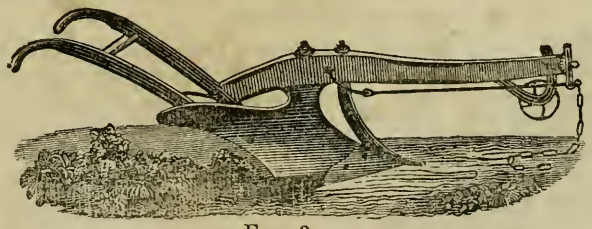


FIG. 3.

MAYHER & Co's LIGHTEST-DRAUGHT PREMIUM PLOUGHS

Are constructed at their own manufactory, to a uniform set of patterns, by machinery, so that uniform dimensions and finish are insured to all the ploughs of the same size or class.

The best of white-oak timber is used in these ploughs, and the iron is polished—point, landside, and mould-board—to prevent friction, and covered with blue varnish, to protect them from rust. Being thus finished the most adhesive soil will not stick to them, or increase the power required to draw them.

The iron used in their construction is composed of a mixture of several sorts, calculated to combine in the composition strength, or tenacity, and hardness, and to render the point and wing of the share and base of the landside fitted for the chilling process, to which they are subjected without injuring their strength. Those parts being subjected to the chief wear are made, by this process of hardening, to last six times as long as the common iron plough.

Center-draught Plough,—Eagle A.—Among the different sizes of these celebrated ploughs we have the Center-draught—Eagle A. It requires one horse to draw it. This is the smallest size.

Eagle B.—Is also a one-horse plough—large size.

Eagle C—has a wheel and coulter, (see Fig. 1,) whose use and advantages will be readily appreciated. This plough is drawn by a pair of horses, or oxen; is of medium size, fitted for the ploughing of sod or stubble-lands. To turn a furrow with it six inches deep and eleven inches wide generally requires the strength of two mules. The furrow it cuts is some seven or ten inches in depth, and ten to twelve inches wide.

Eagle C,—WITH FIN-CUTTER.—See Fig. 2.—In other respects it serves the same purposes as Eagle C, with coulter.

Eagle D,—WITH COULTER AND WHEEL.—See Figs. 1, and 2.—This is one size larger than Eagle C, and of the same construction. It cuts a a furrow of any required depth from six to eight inches, and from twelve inches to fourteen inches wide. It is used in ploughing sod or stubble lands. For two horses, or one yoke of oxen.

Eagle F,—WITH WHEEL, COULTER, AND DRAUGHT-ROD.—See Fig. 3. It is well adapted to trench-ploughing, and for breaking up rough ground. Almost any growth of grass, stubble, or weeds, may be readily covered with it. It will cut a furrow to the depth of twelve inches, if required, and even deeper, and from fourteen to sixteen inches in width. The power required is three horses.

Eagle C, L.—This plough is used for reclaiming meadows, and is an excellent plough for the wet lands on the Mississippi, and for the Western prairies. It is of strong construction, and will bear the draught of four stout horses. It has a strong lock-coulter, (as seen in Fig. 3,) and when required, it has a sharp steel-edged share or point, and a drag-coulter, or reversed cutter, to facilitate the complete turning over of the surface of meadows, when drained by ditching. Its crane-clevis, and the newly in-

vented draught-rod, enables the plough to follow the course of its furrow, while the team travels wholly on the unbroken land; thus obviating one great objection to the ploughing of meadows—the wading of the off horse, or ox, through mud or water. Without the fixtures for meadow-ploughing, and with the original point, it is a good upland plough; and rugged soils, from its great strength, may be ploughed without wear or damage to the plough.

We have also—

The Eagle Self-sharpener, No. 1.—A light plough, for one horse.

Eagle Self-sharpener, No. 2½.—A medium one-horse plough.—

Eagle Self-sharpener, No. 5.—For sod or stubble land—a medium-sized two-horse plough.

Eagle Self-sharpener, No. 5½.—A two-horse plough of large size.

Eagle Self-sharpener, No. 6.—A breaking-up plough, of strong construction, for breaking up deep, stiff clay, and strong soil.

The Eagle Self-sharpener,—LEFT-HAND PLOUGH: for turning the furrow to the left hand, instead of the right. All the different fixtures of the above may be attached to these ploughs as well as to the right-hand ploughs. These are used in various parts of the West. Those farmers who plough with three horses abreast will find the *Draught-rod* a great convenience, as the plough can readily be adapted to be drawn by two or three horses.

Left-hand Plough, No. 54.—Requires the power of two strong horses.

Left-hand Plough, No. 55.—Still heavier and larger, and requires three horses.

We have, also, PLOUGHS especially adapted to the cultivation of COTTON, CORN and RICE, which we designate—

Plough No. 14.—Which turns a wide furrow in a sandy or light soil. The mould-board is more curved than in other ploughs, and pulverizes the soil remarkably well.

Plough 15.—Same as above, for one horse or mule: but one size larger.

Plough A 1.—A light plough, for one horse or mule; fitted for loamy or clayey soil, well adapted to furrowing or drilling, or to the cultivation of cotton, or corn.

Plough A 2.—The same as above, but one size larger.

Plough 2 B.—Same as last, but two sizes larger, for two horses.

Davis' 6 inch Plough.—Light one-horse or mule plough, especially designed for the South.

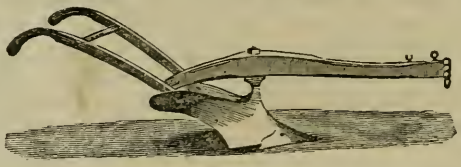
Davis' 7 inch Plough.—Same construction nearly, but one size larger.

Davis' 9 inch Plough.—A good stout two-horse plough—very strong.

The Rice-Trenching Plough—will be sufficiently understood from its name. It is a great labor-saving implement in the rice culture. It may be used for drilling in planting of corn and cotton, and root crops.

Double Mould-Board Plough, No. 1.—See Figs. 5 and 6.—This plough is used for ridging-out land, and serves a very good purpose for ploughing among corn, potatoes, etc., while it throws the dirt both ways. It serves the purpose of double ploughing, and is much better where the rows are near together, and saves half the labor. Other uses to which it may be applied on a farm will naturally suggest themselves.

FIG. 5.—SIDE VIEW.



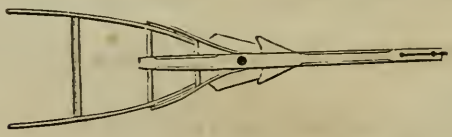


FIG. 6.—TOP VIEW.

Double Mould-Board, No. 2.—Is the same as the above in form and construction, but one size larger, and has also an extra point of greater width, for digging potatoes. It is used in planting corn, and digging shallow ditches.

But, for planting SUGAR CANE, we have **Midland**, or **Double Expanding Mould-Board Plough**, made expressly for Sugar Planters. Its furrow is ten or twenty inches wide, and five to ten inches in depth

We have also **The Paring Plough.**—See Fig. 7.—This is used in preparing turf for burning, by paring it from the surface of the land where it grows. It has a thin flat share of wrought iron or steel, with a lock-coulter forward, and two stout coulters on the wings, thus cutting the furrows into two strips, as it moves along. The turf thus pared off is cut into pieces with sharp spades, by hands following the plough, and when these strips are dried in the stocks where they are thrown together, they are burned, and the ashes are thrown broad-cast over the land. Light sandy soils should not be burned.

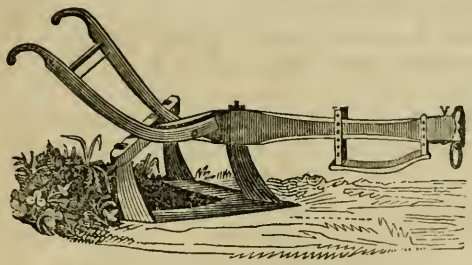


Fig. 7.

Swivel or Side-Hill Ploughs.—See Fig. 8.—The mould-board and share of these Ploughs are so constructed as to be turned from one side of the beam to the other, by unlocking the clasp of the mould-board, (as seen in the cut,) attached to the center-piece of the handles, and lifting the beam by the handles, while the share and mould-board roll under it on a sort of swivel-hinge, till the beam and handles settle down on the other side, and the share and mould-board are fastened by the hook, in their proper places. This changing the plough, from right hand to left, is effected in a minute, while the team is turning to commence a new furrow.

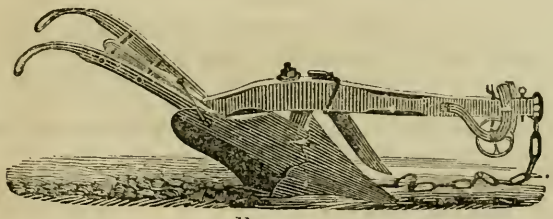


Fig. 8.

These ploughs are convenient, as well as possessing peculiar advantages. In ploughing a side hill the furrows are turned downwards, by commencing at the lower margin, and ploughing on the same side, till the field is gone over, leaving the field with a uniform surface, without the center or bank furrows which it presents when ploughed in the ordinary method.

In building roads they are very useful, as where dirt can be ploughed but from one side it can always be turned towards the road, while the team is passing either way.

Among the varieties of this plough we have THE EAGLE, No. 0, to No. 4.

Eagle No. 0.—SIDE-HILL.—Is a light one-horse or mule plough.

Eagle No. 1.—SIDE-HILL.—A sod or stubble plough, requiring two horses, or mules for its draught.

Eagle No. 2.—SIDE-HILL.—Is a large plough for two horses, and is sometimes used with three or four, as the nature of the soil may require.

Eagle No. 3.—SIDE-HILL.—Suitable for heavy road or farm work. It is made sufficiently strong to bear the draught of four or six horses.

Eagle No. 4.—SIDE-HILL.—For the roughest kind of work on farm or roads, of the strongest construction.

SUB-SOIL PLOUGHS.

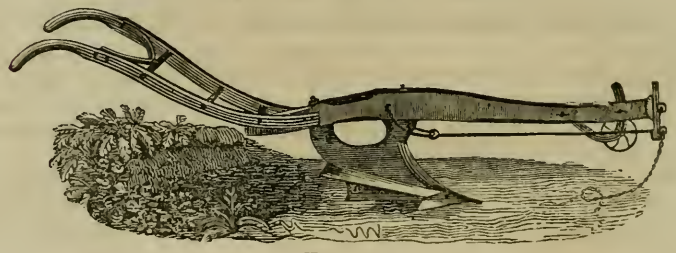


FIG. 9.

The advantages of sub-soil ploughing are so extensively investigated in different Agricultural Works that they scarcely require to be stated here. The plough follows in the furrow of the surface plough, stirring the dirt to a considerable depth, leaving a light bed instead of a hard bottom, on which the succeeding furrow is turned. Thus, when the ploughing of the field is completed, there is a depth of several inches of pulverized soil below the ordinary surface-ploughing. This facilitates the extending of the roots of the plants to a greater depth, and gives them sources of moisture against extreme drought.

These ploughs are already extensively used by our Farmers, and the demand for them is constantly increasing.

Eagle E, No. 0.—SUB-SOIL.—Is a one-horse plough, or at the South is used with two mules. Its *sub-soil* furrow is from four to six inches deep, or below the surface furrow.

Eagle C.—Sub-Soil.—For ordinarily clear soils. Its size is medium, but it is of sufficient strength to stand the draught of two or three, or even four horses. It will run to the depth of twelve inches.

Eagle B.—Sub-Soil.—This plough is very large, and will break or pulverize the soil to the depth of eighteen inches.

Eagle A.—Sub-Soil.—Is about the same size as the last, but it has either a double or single wing-point. And it also has an inclined plane upon either or both sides at the same time.

The draught-rod had better be used with these ploughs. It can scarcely be dispensed with, as without it the off ox or horse is compelled to walk on the furrow, instead of on the hard land. Besides, the plough works more easily in the surface-soil furrow with than without this appendage.

NEW YORK PLOUGHS.

To meet the demand for ploughs at a cheaper rate than the above described ploughs, we manufacture extensively the following, which are of the same dimensions and material, but are not so highly finished, and the iron-work unpolished.

New York Plough No. A 1.—For loamy and clay soils. A light one-horse or mule plough.

New York Plough A No. 2.—Size larger than A No. 1.

New York Plough No. 14.—A one-horse light plough for sandy soils.

New York Plough No. 15.

New York Plough No. 2 B.—Small two-horse plough far any kind of work.

New York Plough Eagle No. 1.—Medium two-horse plough.

New York Plough Eagle No. 2.—A strong two-horse plough, for any kind of work.

One-horse Corn-Ploughs.—		No. $10\frac{1}{4}$
"	"	" $11\frac{1}{4}$
"	"	" $12\frac{1}{2}$
"	"	Corn
"	"	Seed

Two-Horse Ploughs,— No. 19½ M. & H.
" " " 20 "
" " " 21 "
" " " 13¼ "

Bergen Ploughs.—For two horses and general work.

M. & Co's— . . . . . No. 1
" . . . . . " 2
M. & H.— . . . . . " 18
" . . . . . " 19
Dutcher's— . . . . . " 1½
" . . . . . " 2
M. & Co's— . . . . . " 3
" . . . . . " 4

Besides these, we have every variety of plough used in the United States, or West Indies, or any part of the world.

Every description of plough, as well as all kinds of Farming Implements manufactured to order, at the shortest notice, and at the lowest prices.

We are also prepared to furnish castings for any of the following ploughs per cwt.:—New York, Eagle, Minor & Horton's, Mayher & Co's, Freeborn & Hitchcock's, Dutcher's, and other Ploughs.

Scotch Ploughs, at from $25 to $40 each, are imported to order.

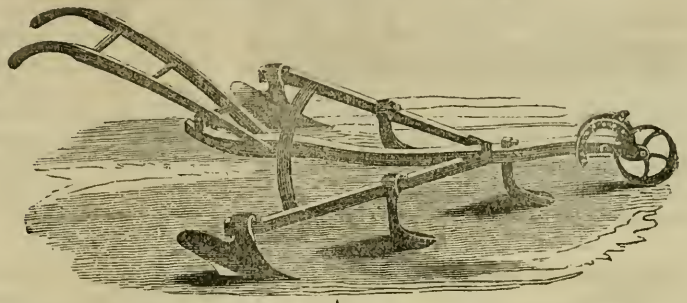
Southern Ploughs, with higher or longer standards, are furnished, of various sizes and patterns.

CULTIVATORS.

In the introduction of labor-saving machinery into the department of Agriculture, Cultivators have acquired an important office. For thorough stirring of the earth between rows of corn, cane, and various crops, the Cultivator has several advantages. Dispatch in the execution of work is a special advantage, and when the crop is small or young, it is less likely to be choked with dirt, or buried, than by a close and thorough stirring of the earth with a plough. Besides, they are made to expand or contract from two to five feet, to conform to the width of the space between the rows. When manure is required to be mixed

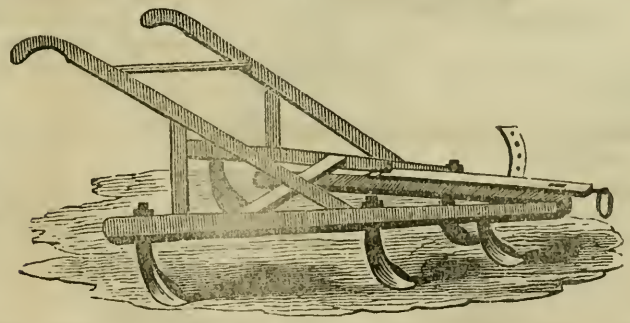
with the earth, and, at the same time, to be retained near the surface, the Cultivator is just the implement required; it covers grain sown broad-cast at a uniform depth much better than the harrow or plough.

Cultivators are adapted to different uses, by providing them with various forms of teeth, fitted to the same frame. For instance, the United States Agricultural Warehouse furnishes as many sets of teeth to the same frame as may be ordered. A set of long teeth to stir the soil deep; or broad and flat ones, to skim the surface and cut up the weeds; and also narrow and slim teeth, termed scarifiers, can be had, or made and fitted to the frame by any common blacksmith.



A.

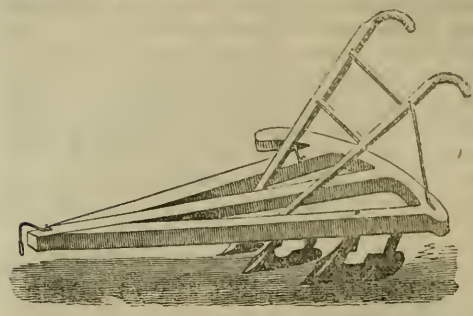
Universal Cultivator.—See A.—Is a neat invention, and longer than the common kind. It has different sets of teeth, as noticed above, and as will be seen in the drawing. It has, as is also seen, two plough-shares in the place of hind teeth, which, by being shifted from side to side, are made to throw a furrow against the rows or turn up a ridge between them. In moist soils, where ridges require to be thrown up, on which to plant the crop, the shares are very useful.



B.

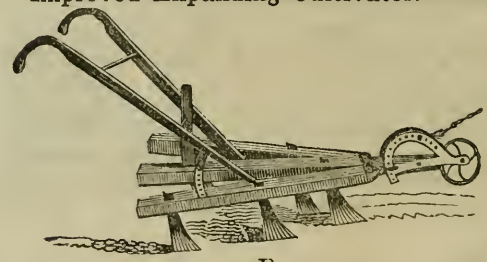
Common Expanding Cultivator.—See B.—Will need no particular description, except that it has steel shares in place of cast-iron.

Three-Furrow Plough.—See C.—This is a species of Cultivator in which, as it were, a gang of plough-shares are used instead of the usual teeth. These shares require a frame of some $2\frac{1}{2}$ feet wide. If 4 shares are used, the frame is made wider in proportion. Its use at the North is to plough in wheat, and other broad-cast sowing. From its width, it accomplishes its work very fast, and its structure ensures its being done uniformly and well. It will cover from three so five acres of grain in a day, and does its work much better and more uniform than a common harrow. It is too heavy for a single mule. Its furrow may be gauged in its depth by a wheel, as other ploughs are regulated.



C.

Improved Expanding Cultivator.—See D.—This Cultivator can be expanded or compressed at pleasure, by a simple bearing down or lifting of the handles. In addition to the convenience of accommodation to any inequality in the width of the rows, it can be lifted round at the corners of the field with the same ease as if it were a single plough. These Cultivators are made from the best of materials.



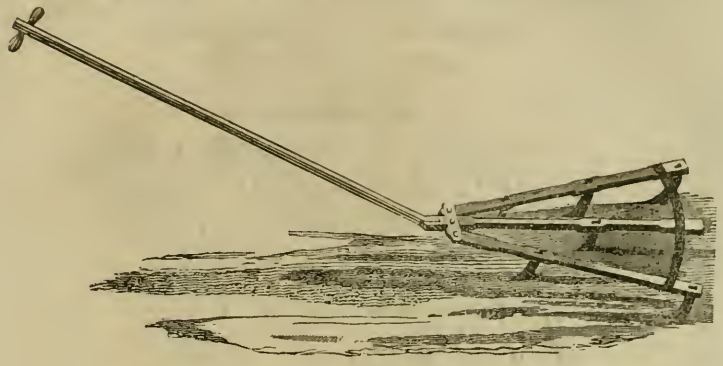
D.

Langdon's Cultivator, or Horse-Plough—Is also furnished at this establishment.

Cotton-Sweep Cultivator.—To be used in the place of the Cotton Sweep, and for other work. It has very sharp steel teeth, arranged to cut up weeds and grass, and to leave in its path a fine pulverized soil. It has all the facilities in adaptation of the other Cultivators noticed above. It can be drawn easily by one mule.

The Hand Cultivator.—See E.—This Cultivator is made entirely of cast-iron, except the handle. Its expansion is from ten to eighteen inches. It is of great use in garden culture, and in fields, between the

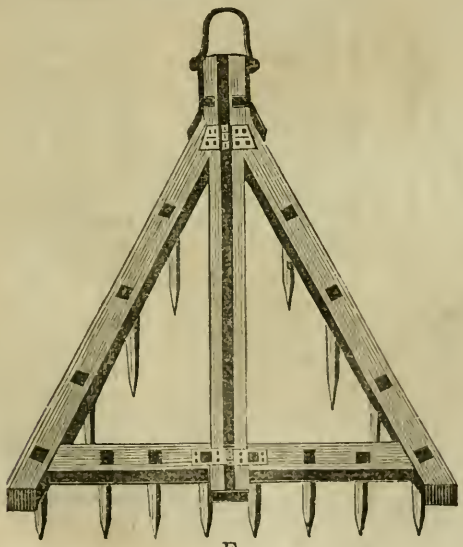
rows of carrots and beets, cutting up the weeds, and stirring the ground very thoroughly. The operator draws it behind him as he would a hand-wagon or cart, doing the work as fast as several men would with hoes



E

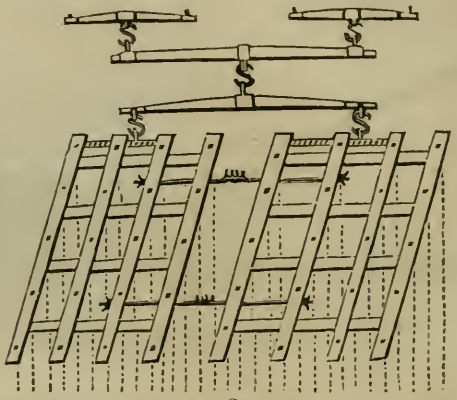
HARROWS.

The Triangular Folding Harrow.—See F.—The construction of this Harrow is sufficiently shown by the cut. Its teeth are the same as in Geddes' Harrow, only larger.

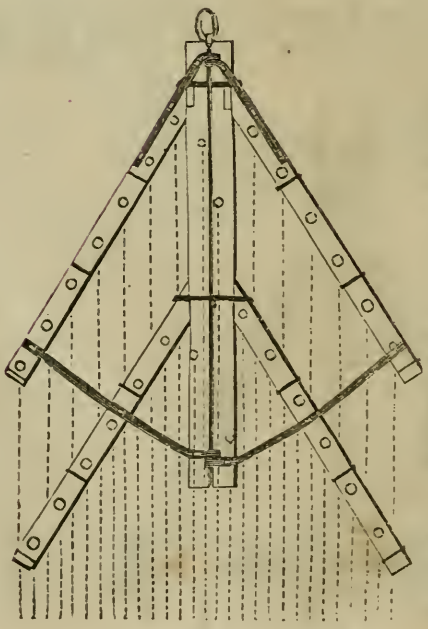


F.

Scotch Harrow.—See G.—This is a double Harrow, which may be divided into two when the strength of the team or the roughness of the surface requires it.



G.



H.

Geddes' Harrow.—See H.—These are folding Harrows, having from 14 to 30 teeth, and are sometimes constructed so instead of a double harrow, as seen. Two single ones are provided when required.

The Geddes' Harrow is esteemed the best in use; from its hinge in the center it works evenly on uneven land, and when the teeth are required to be cleared of vines or any refuse vegetables with which they they may become entangled, they may be cleared without lifting the whole weight of the harrow. It may be folded back together, for transportation about the farm.

PATENT IMPROVED RAILROAD HORSE POWERS

AND

Overshot Threshing-Machines and Separators.

Manufactured and Sold Wholesale and Retail at the Agricultural Warehouse and Seed-Store, 197 Water-street, N. Y.

Fig. 1.

The demand for these machines has been constantly increasing since 1841, as they have been introduced, upwards of 350 sets having been sold the past year, with entire satisfaction to the purchasers, as warranted; and with the important improvements recently made, they are offered believing them to be the best machines for the purposes designed which can be put into the hands of the grain-growing farmers of this country.

They are also equally well adapted for mechanical purposes, for propelling saws, lathes, grindstones, &c., &c.

They have been exhibited, in operation, at the New York State Agricultural Fairs, in 1847 and 1848, receiving in each case the premium for being the best tread-power. It was also exhibited at Cobourg, Canada West, at the Colonial Fair, where it received a diploma, and the highest com-

mendations, for being the best machine ever offered or examined by the committee. Being made out of the Provinces, it could not receive a premium.

It was also exhibited in operation at the exhibition of the district fair held at Xenia, Ohio, under the patronage of the State Board of Agriculture, where it received a diploma and the highest encomiums of the committee—it being, in their opinion, the best Horse-Power, Threshing-Machine and Separator they ever saw in operation, and they warmly commend it to the farmers of Ohio.

It was also exhibited in operation at the fair of the Hamilton Agricultural Society, near Cincinnati, with the same results as at Xenia. It was also exhibited at the fairs of the Monroe County Society, at Rochester, in 1848; the Rensselaer County Fair, at Troy, in 1847 and 1848; at the Saratoga County Fair, at Ballston, in 1848; at the Worcester County Fair, at Worcester, Mass., in 1848; and in all cases, without exception, it has received the highest encomiums, diplomas and premiums, for utility, simplicity, portability, efficiency and cheapness of cost.

Thus far it has been the aim and object of the manufacturers and patentees to make and sell their own machines, with the common right of using them, so long as they can supply the demand; believing that the sale of exclusive rights would tend to retard their general introduction, as is too often the case with valuable inventions, from the fact that purchasers of such rights of making and using, by offering an inferior article, or oftener charging exorbitant prices for them, do injury to their character, and place them beyond the reach of farmers of ordinary means.

The power itself occupies little space; is compact, light and portable, and can be used by the weight only of the horse or horses at an elevation of from 16 to 22 inches in 10 feet, according to the size of the horses. The moving parts are simple—as sufficient speed and direct motion is obtained with but one shaft, without gearing or crossing of bands—thus avoiding a vast amount of friction which is unavoidably produced by the complexity of ordinary powers in use. The horses walk on a hard plank flooring, with a second floor underneath, to avoid accidents in case the first planks wear through. One set of planking usually wears to thresh from 20 to 30,000 bushels of grain; and when worn out can be replaced at an expense of $3 to $6, by an ordinary mechanic. The whole platform traverses each way on its own small wheels upon an iron rail-track.

This Thresher is different in many respects from most others, inasmuch as it is an overshot, with concave above the cylinder, thus admitting of a level feeding-table, and the feeder to stand erect. By this motion all hard substances are prevented from getting into the thresher, thereby avoiding the breaking of spikes, and accidents; and by means of a brake the whole is instantly controlled by the feeder.

The grain, by this motion, is not scattered, but thrown upon the floor within three feet of the machine, and admitting of a Separator to be

attached sufficiently high to allow the grain and fine chaff to fall through it, while the straw is thrown off without being cut, and in fit condition for binding, while the grain with the fine chaff is left in the best condition for the fanning-mill, and can be readily cleaned by one operation. The cylinder is smaller in diameter, of greater length, and has only one-third the usual number of teeth. The concave has nearly double the usual number.

The Separator has been sold with each Thresher, and is considered indispensable, as it does the work of several men, and more perfectly.

Finally, the advantages of these machines may be summed up as follows:

1st. Their great simplicity and reduced friction require much less power.

2d. Fewer men are required to attend to its operation, no driver is needed, and all can be operated by the hands usually about the farm.

3d. All can be operated inside of barns in stormy weather, when men and teams could do little else to advantage.

4th. The Thresher is equally calculated for threshing clover and timothy seed.

5. The cost of the Two-horse-power Threshing-machines and one of the best Fanning-mills, with belts and extras, (sufficient to wear out the machines,) is but $175; while the cost of an ordinary gear and pinion horse-power, with a combined thresher and cleaner, is from $225 to $250 and $275; making a saving to the purchaser from $50 to $100 in the outset, besides saving him from the expense and trouble, in nine cases in ten, of running their grain through a fanning-mill before it is fit for market.

6. The power required to operate these machines is, at the least calculation, less than one-half that required to operate any gear and pinion-power and thresher and cleaner combined now in use, on account of the extra amount of friction produced by the greater number of shafts, pinions, gearing, bands, wheels, &c., in the latter.

7. When a Fan Mill is used it receives its motion directly from the horse-power, and is much more uniform, and cleans more perfectly than when the cleaner is combined with the thresher and receives its motion from the cylinder, as in this case the cleaner is subject to all the variations of the cylinder as the feeder presses fast or slow, thereby blowing away the grain with the chaff one moment, and discharging them together the next, half cleaned.

8. This Thresher and Separator leaves the grain and fine chaff in the best possible condition for a fanning-mill—and a good mill is capable of cleaning, fit for market, at one operation, from 60 to 80 bushels per hour, without clogging the sieves; or more than any machine can thresh in the same time.

9. The fanning-mill being purchased separate, may be used by hand, and for all kinds of grain, clover and grass seeds.

10. This Thresher and Separator together are compact, and weigh but 300 lbs., and a fanning-mill about 200 lbs., making but 500 lbs.;

while a good cleaner and thresher combined weighs nearly double that amount, and are much more cumbrous and inconvenient to handle.

11. This Horse-power is equally well adapted to mechanical purposes, as grinding feed, sawing wood, driving churns, cider-mills, turning-lathes, straw and cornstalk cutters, and a variety of other purposes.

12. The double power is equally well adapted for one horse as the single power, and is found quite sufficient for sawing wood, driving turning-lathes, and various purposes where the power of one horse is sufficient for the same.

Three men, with a single power, and a change of horses twice a day, can thresh from 75 to 100 bushels; or four men, with a double power, with the same horses constantly, can thresh 175 to 225 bushels of wheat or rye, or double the quantity of oats or buckwheat per day.

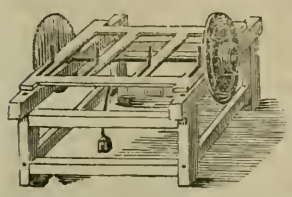
Single Horse Powers, latest improved.
Separator.
Threshing-machine.
Two bands, with an assortment of extras, wrenches, &c. complete.

They can be taken in pieces and packed very compactly, and forwarded to any part of the country, by railroad, canal, or steamboat. The weight of a sett of single power, &c., complete, is about 1,100 lbs. The weight of the double power, &c., complete, is about 1,800 lbs.

We have efficient agents for receiving and forwarding machines in all the principal towns and cities in the states of New York, Michigan, Indiana, Illinois, Iowa, Wisconsin, Ohio, Kentucky, Missouri, Vermont, &c., and all machines delivered on board boats, cars, &c., and freights always contracted for at the lowest rates, and shipping bills made out and forwarded without extra charges for the same, thereby insuring speed, safety and reasonable charges for transportation.

Terms are cash on delivery of machines at the above prices. The Powers, Threshers, &c., are warranted to operate as represented, or may be returned within three months at our expense, and the purchase money refunded.

Fig. 2.



No. 2.—Saw Mill.—This mill is made with joint bolts, patent metallic boxes, large and long shaft and heavy fly wheel, and may be used with single or double horse power. For single power, a 22 inch saw is used; for a double power, a 24 inch saw; and with the one-horse power and two men, from ten to fifteen cords of hard cord-wood may be cut twice in two per day—or as much soft wood as they can handle.

The same mill, by changing saws, can be used for slitting boards and plank for fencing, &c.

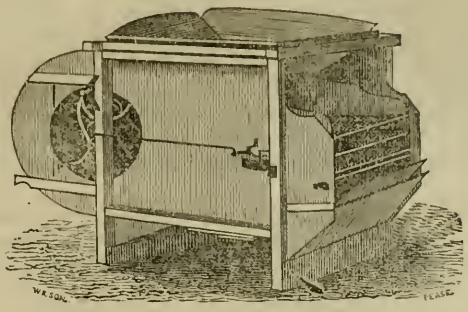


Fig. 3.

No. 3.—Fanning Mill.—This is considered one of, if not the best mill in use. It is equally well calculated for all kinds of grain, clover and grass seeds. It may be operated by hand or horse power. The largest size, when attached to the horse-power, with one person to feed it, is capable of cleaning perfectly one hundred bushels of wheat per hour, as it comes from the Separator of the Threshing-machine. This Mill has received the first premium at four of the New York State Fairs, also at the State Fair of Maryland and Pennsylvania. Certificates are unnecessary, as all mills are warranted.

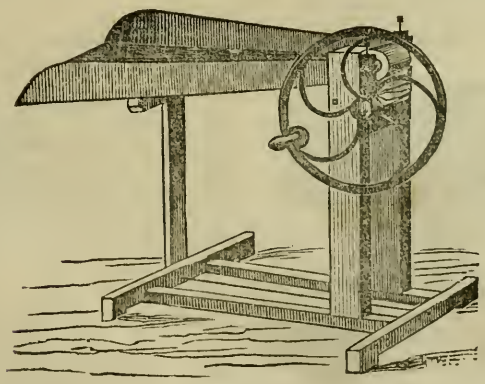


Fig. 4.

No. 4.—Premium Straight-knife Hay-cutter.—This is constructed with a cylinder of knives cutting against a hide cylinder, with this difference—the knives are straight, but are placed diagonally upon

the cylinder, and are confined by movable cast-iron heads, which receive the ends of the knives, and when these heads are confined all are held firm. This is a late invention, and promises to do well. The manufacturers hold that this form of knife is best, inasmuch as being straight it is more easily ground by farmers in general.

The New York State Agricultural Society, at Buffalo, and the American Institute, at New York City, at their respective Fairs, held in September and October, 1848, awarded their first premiums to these machines; and the Worcester Co. (Mass.) Mechanics' Association, at their Fair, awarded to them its highest commendation. The improvements consist:

1. The adopting straight knives, and placing them on the arbor, diagonally, so that they work in the same manner as the spiral knives; and being straight can be ground by the person using them with the same facility as other farm implements.

2. They can be replaced by the common blacksmith when worn out, or new blades can be obtained of the makers or dealers at trifling cost.

3. All the knives are confined to the arbor with simply two caps and two pins; by which simplicity the great liability to get out of repair, or the knives to twist, cripple, and break, is obviated.

4. The roller, when used with straight knives, properly set, is said to endure much longer than when used with spiral knives.

No. 1. Cutter, 8 knives. No. 2, 8 knives. No. 3, 8 knives. No. 4, 8 knives. No. 5, 8 knives, No. 6, 8 knives, No. 1, 8 knives, geared, No. 2, 8 knives, geared. No. 3, 10 knives, geared. No. 4, 10 knives, geared. No. 5, 12 knives, geared. No. 6, 12 knives, geared.

No. 5.—New Sausage or Mincing Machine.—This machine, by the power of one man, is capable of cutting readily from 80 to 100 lbs. of meat per hour—the person turning the crank feeding the machine, thus leaving the mass cut sufficiently fine and uniform.

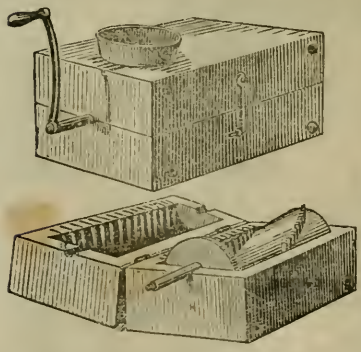


Fig. 5.

It is constructed of blocks of woods about 5 inches thick, 9 inches wide and 15 inches long, connected together with hinges and hasps. The two faces of the blocks are so carved or bored out as to form a hollow cylinder or barrel, extending through the length of the blocks, excepting enough at each end to form a head or cap. In this cavity is suspended a wooden cone on an iron shaft, running lengthwise, and one end of the shaft extending through and connecting with a crank outside. In this cone are placed

three rows of wood or iron pegs, so arranged spirally as to form a kind of screw, running lengthwise—the pegs being smaller, shorter, and closer together as they approach the large end of the cone—making the mean diameter of the pegs the same at each end of the cone, and just filling the space or cavity. Each block has a set of triangular knives fixed stationary, and so as to allow the pegs to pass between them. The process is simply putting in meat at the small end of the cone, through the kind of hopper or funnel, and by turning the crank the meat is passed round, through and between the knives, and forward to the large end of the cone by the combined action of the pegs and knives, and finally discharged through an aperture at the bottom, at the large end of the cone, or opposite the hopper end—the fineness being gauged by the size of this discharging aperture.

The machine is warranted to cut, fit for use, from 80 to 150 lbs. per hour, according to the power applied—one man being sufficient to turn it constantly. Several hundred have been sold during the past two years, and give entire satisfaction.

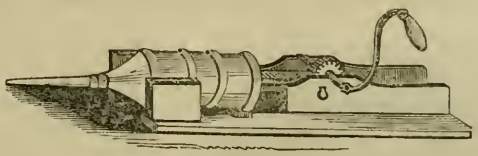


Fig. 6.

No. 6.—Sausage Stuffer.—This machine will do the work of eight persons. In using, the large end of the cylinder is canted up and filled with meat—it is then replaced, the skin placed on the funnel-shaped end, and a single turn of the crank acting upon the piston finishes the operation.

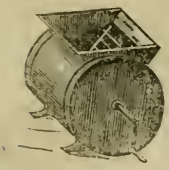


Fig. 7.

No. 7.— Cylinder Churn.—Too much has not been said in favor of this simple labor-saving churn. The sale of them for the last few years has been unprecedented by any other churn, and so general satisfaction have they given that not one in a thousand has been returned, although all are warranted satisfactory. It is a simple cylinder, with a kind of large hopper upon the top, with a cover or lid to fit. It has an iron shaft, polished and closely fitted in metal boxes at each end, and on this shaft are suspended two floats or frames at right angles with each other, thus forming four floats—and by turning the shaft by means of the crank, the floats, being confined to it, are turned at the same time, breaking the cream four times at each revolution of the shaft or crank. These floats are removed or taken out of the churn in a moment, by unscrewing and drawing out the crank first—thus

making it very convenient to remove the butter after churning and cleaning the churn.

The churn may be filled more or less to suit those using it; but generally about two-thirds full is the best plan. In churning care should be taken not to turn too fast, as it only delays the coming of the butter, and is harder for the person using it. In case this is filled more than half full, the milk should be drawn off at the bottom, so as to bring the whole below the shaft before it is withdrawn to take out the butter.

No. 1, for 1 to 2 cows,
2, 3 to 5 "
3, 5 to 8 "
No. 4, for 8 to 15 cows.
5, " 15 to 25

In using they are placed upon a bench, table or platform. Being so compact in shape, they are cheaply, easily and safely transported to any part of this or other countries. Arrangements being made for a full supply of these churns, orders from farmers and dealers are respectfully solicited.

No. 8.—Collins & Stone's Patent Cheese-Press.—This cut is a correct view of the press in actual use. It is constructed by means of double or compound levers, which are so arranged that the weight of the cheese or curd is the power which presses itself—and, as they are usually made, press in a ten or twelve-fold ratio. This is found enough for the commencement of the process; but when more is required, it is added by simply placing on the platform an extra weight—as a brick weighing four pounds would give 40 to 48 lbs. of extra pressure. It is sufficiently strong to hold a cheese of 150 or 200 lbs. weight. The press is loosened in an instant by a small lever, about four or five feet long; and a child can loosen it. By hooking down the lever the press answers every purpose of a table to turn and trim the cheese upon. The whole weighs from thirty to fifty pounds, complete, and occupies a space of about two feet square. There are three sizes now made

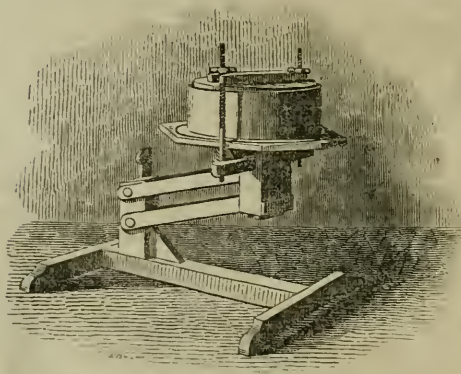


Fig. 8. *Self-Acting Cheese-Press.*

No one who has ever used this press has returned them, or substituted any other kind in its stead, although before the public for the last five years, and many hundreds have been sold.

No. 9.—Agricultural Furnace.—The cut represents the most approved portable furnace for agricultural purposes now before the public. It is formed of cast iron, and is of itself both stove and boiler. The boiler is shown in the cut as detached from the stove. Its form is such that the fire passes completely round the kettle or boiler, the space being some two or three inches between the outside or stove and boiler. This causes the water to boil quickly, and with very little fuel, and saves all the expense of masonry and brickwork, as a funnel or stove-pipe is all that is necessary to give it a draft for all purposes. They are admirably adapted to boiling and steaming vegetables and food for stock, and are convenient for many other purposes where large quantities of water are required to be heated. The following are the manufacturers' retail prices. They can be furnished both wholesale and retail. 15 gallons, complete. 22 do. 30 do. 40 do 45 do. 60 do. 80 do. 90 do. 120 do

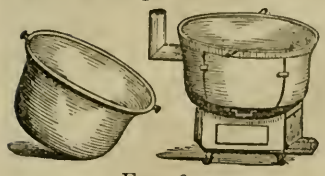


Fig. 9.

No. 10.—Cattle Tie or Chain.—This is the most convenient and secure mode of fastening cattle in use, and at the same time the most comfortable—the large ring being confined by a round post attached to the manger, and so loose as to slip up and down as the animals move their heads in feeding, or in getting up or lying down. The ends are thrown round the neck and the T end put through one of the small rings at the other end of the chain, and thus the animal is safely confined. Such a chain will last an age.

Fig. 10.

No. 11.—Bull Ring.—This little article is very neatly made from round polished iron. It is fitted together in two parts, and opens on a pivot or hinge, and is fastened by a screw on the opposite side of the ring. Every bull should be rung, for with a ring in his nose the most furious animal can be safely managed by any person, as one end of a stick three or four feet long can be tied to the ring, and by this the animal can be led, handled and controlled with perfect safety and at the will of the holder. The ring is inserted by punching a small hole in the cartilage, between the nostrils, and then inserting the ring and screwing it together.

Fig. 11.

No. 12.—Wheat Drills.—As various kinds of sowing-machines are in use for the purpose of sowing wheat and other grains in drills, by horses, we have the agency for several of the most approved, as Palmer's, Pennock's, and others. Besides, we are fitting up one upon the plan of the seed drill-barrow, (described in another page of this book), which, when done will be offered to the public with the fullest confidence of success. We intend to make this serve the purposes designed more perfectly and more simply in their whole operation, and so as to sow the drills any desired distance apart, and any quantity to the acre, and of such sizes as may be operated with one or two horses.

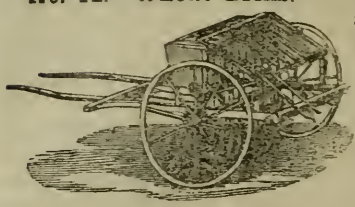


Fig. 12.

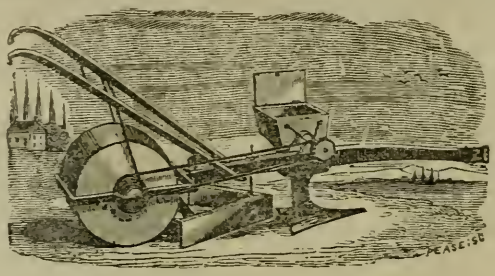


Fig. 13.

No. 13.—Corn-Planter.—This is one of the best machines in use for horse power for corn in hills. The general form is similar to a plough without mouldboards, with a hopper placed upon the beam. The seeds are dropped by two wooden slides or arms, which are moved alternately by a crank motion, in and out at the bottom of the hopper—these arms having cups or cavities which fill with corn, and as they are drawn out and over the pipe or tube are dropped into it and fall to the ground beneath the share.

No. 14.—Corn-Planter and Seed-Drill.—The annexed cut represents this planter. In using it the operator takes the handles, as with a wheelbarrow, and walks off erect. The machine, making its own furrow, counting and measuring its own quantity of seed, deposits it in hills or drills at pleasure, and at any distance apart, covering the seed after it is dropped, and compressing it after it is covered, by means of the roller, and doing

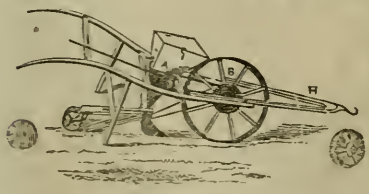


Fig. 14.

the whole at one and the same time. At the same time it is one of the most simple machines for the purposes designed that has ever been introduced. With this all small seeds are dropped by means of a revolving circular brush inside, which operates quite on the bottom of the hopper. The quantity, as well as the different kinds of small seed, are regulated by means of movable tin plates with different sized holes in them, which are placed in the bottom of the hopper : the seed is forced through one of the plates with the proper sized holes by the brush. By this process all seeds—as carrot, parsnip, turnip, onion, &c.—without regard to form or weight, are dropped with equal precision.

For planting corn the brush is removed, and a wooden cylinder is substituted, just filling the hopper mouth ; the tin plate is removed, leaving the bottom of the hopper open. This cylinder is perforated with cavities sufficiently large to receive any required number of kernels of corn, beans, peas, &c., and a set-screw, with a head just filling the cavity, is inserted. The quantity is regulated by turning the screw down or up, at pleasure ; and when only part of the cavities are needed, the screws may be turned out until they are even with the surface of the cylinder. All the cavities or any part of them may be used at the same time, according to the distance asunder it is desired to drop the seeds. The brush and cylinder both receive their rotary motion by small gear wheels, (and connecting shaft), operating into series of rows of cogs upon the plane face of the main large wheel, thereby avoiding the difficulties heretofore found in using bands, which would slip, wear, and get loose.

The speed of the cylinder and brush may be varied by placing the movable pinion (which is on the connecting shaft) in any of the different rows of cogs on the main wheel, and there confining it by means of an iron pin. By referring to the accompanying cut the planter will be readily understood. It is equally adapted for being used by hand or by a horse, as a plow. Several hundred have been sold, and have given universal satisfaction. One acre per hour is readily planted, and may be called a fair estimate of their capabilities, with the rows three feet apart. With the rows wider or narrower, more or less ground may be planted in the same time. So accurately have they worked, that it may be proper to name an instance this season, which was on a good piece of ground of twenty acres. The machine was set to drop the desired quantity at the requisite distance, and a calculation made, and the quantity of seed for the field was measured, and when it was planted a little over a quart of seed remained in the hopper. After the corn came up none had been missed, but any ten hills in one part would not vary in number with another part of the whole field. This statement is made by Judge Cheever, of Stillwater, N. Y, and is but one of very many similar reports of their successful operation.

No. 15.—Improved Hydraulic Ram.—H, spring or brook; C, drive or supply-pipe from spring to ram; G, pipe conveying water to house or other point required for use; B, D, A, E, I, the ram; J, the plank or other foundation on which the ram is secured. Comparatively few of those for whose benefit this contrivance is designed have as yet become aware of its great utility. Although the law upon which it works is one of the most common in nature, and although it has been known in some form or other for 2000 years, yet a kind of mystery has always hung about it. The seeming absurdity of the idea that water may be made to elevate itself above its level, and to supply a constant and abundant stream at any desired height, without the liability to accidents and stoppages, has prevented inquiry into the construction of the hydraulic ram, and it has consequently remained almost unknown, and until a few years, little used.

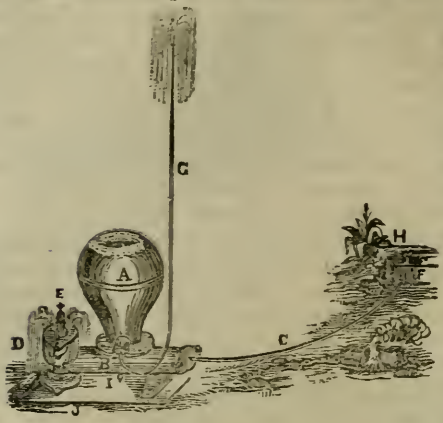
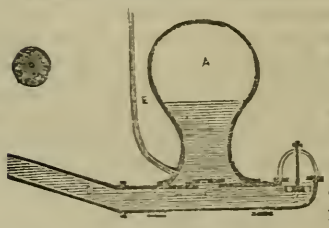


Fig. 15.

Description.—The annexed cut represents a vertical section of the ram. A, the air-chamber; B, the waste-valve; C, valve opening into the air-chamber; D, the feed or driving pipe; E, pipe to convey the water where it is desired. The pipe D should be from 30 to 50 feet long, and from one to two inches caliber: the pipe E any length desired, and about half an inch caliber. Lead pipe is commonly used. The circular figure on the left represents the form of the waste-valve. The waste-valve is made to vibrate up and down thus:—The water passes down the driving-pipe, D, and escapes at the waste-valve, B. Now, as any descending body increases in velocity and force every instant of its descent, the column of water descending in the driving-pipe quickly attains sufficient velocity and force to lift the waste-valve; but the valve in rising instantly stops the passage, and the whole momentum of water strikes against it and seeks relief, which is only found at the valve C, through which a quantity of water is forced into the air-chamber, where it is confined by the closing of the valve. The momentum being thus expended, and the water at rest, the valve B drops by its own gravity, and is ready to start again. After repeated



vibrations the air-chamber becomes partly filled with water, compressing within a small space the air, which, by its elasticity, reacts upon the water, and forces it up the pipe E to any desired elevation or distance.

Thus simple is the machine; and, when once properly set, it will act for years without a penny's worth of repairs, and be as constant and regular in its duty as is the law of nature upon which it acts.

Many a farmer has a good spring or stream of water in the vicinity of his buildings, which would be to him invaluable if it could be brought to the house and barn; but being at a distance, and below the level of his buildings, it cannot be done by the ordinary means of conveying water. To such the ram becomes one of the most useful contrivances that ingenuity and science has ever furnished. Faithfully performing its work, unattended and unnoticed, with constant and regular pulsations as of life, it presents one of the most beautiful and interesting achievements that the mind has ever obtained over matter.

A fall of not less than 18 inches at the spring, and a quantity of water not less than half a gallon per minute are necessary to operate the ram—but the greater the fall and the quantity of water furnished, the greater will be the quantity of water elevated by the ram; and there is no limit to the height to which it may be raised, except the strength of the pipe used.

Directions for setting the Ram.—Place the ram in a pit, two or three feet deep, and secure it to some solid platform. Lay the pipe the same depth—or so as to be out of the way of frost. After the ram is set, and ready to operate, let on the water, and hold open the waste-valve until the water has acquired a strong, full current, and then set it vibrating up and down. Adjust the length of stroke by means of the screws over the valve to the quantity of water, so as not to exhaust the head.

N. B. Be particular to make a very small awl-hole in the top of the drive-pipe, close to where it enters the ram, to supply the chamber with air. Occasionally take out the thumb-screw at the bottom of the chamber, to let it discharge sediment, should any accumulate.

DIMENSIONS OF PIPES.

Size of Ram.	Length of Pipes.		Caliber.		Weight of Pipe.	
	Drive.	Discharge.	Drive.	Discharge	Drive.	Discharge.
No. 3.	30 to 50 feet.	To where desir'd	1 inch	½ inch.	8 lbs. per yard	12 lbs. per rod.
" 4.	" " "	" "	1¼ "	½ "	10 " "	12 " "
" 5.	" " "	" "	2 "	¾ "	20 " "	25 " "
" 6.	" " "	" "	2½ "	1 "	33 " "	7 " per yard.

The greater the elevation to be overcome, compared with the head or fall, the longer the drive-pipe should be—and vice versa. The drive-pipe should be made straight, or a very gentle curve, if necessary.

Connect the pipe with the ram by passing it through the iron coupling, and forming a flange on the end of the pipe, and then screwing the coupling together, with the leather collar between. Put a coarse strainer over the upper end of the drive-pipe, to keep out sticks, &c.

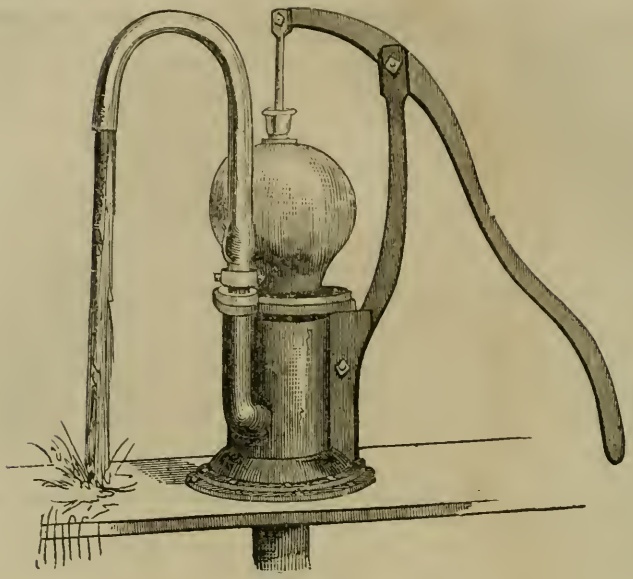
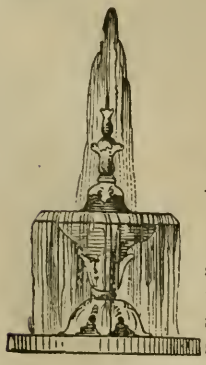


FIG. 16.

No. 16.– Force Pump.—An excellent article for mines, breweries, railroad water-stations, factories, sugar plantations, dwelling-houses, steamboats and packet-ships, and all other places where a constant stream of water is required. These pumps being double-acting, by attaching hose they answer the purpose of a fire engine ; also for watering gardens and washing windows. The public are respectfully invited to call and examine for themselves, as a constant supply of all sizes, from two inch cylinders up to eight inches, will always be kept on hand.



No. 17.—Fountains.—Of various patterns, for public and private uses.

They are becoming very common in gardens and about residences, as they can be so readily and simply operated by the agency of a Water Ram, at almost any direction or elevation from a running stream of water.

No. 17.—Pumps for Cisterns and Wells.—These pumps are made of cast iron. No. 5 is made for lead pipe of $1\frac{1}{2}$ or $1\frac{3}{4}$ inch caliber, with brass valve-seat and brass tube for attaching the lead pipe. This pump is so constructed as to let off the water to prevent freezing in the coldest weather, provided the platform to the well is made tight.

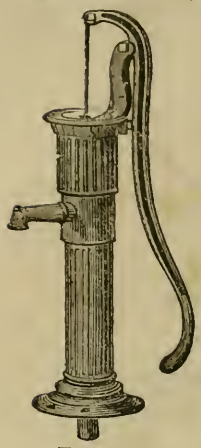


Fig. 17.

No. 1 is made with brass tube for attaching lead pipe of $\frac{7}{8}$ or 1 inch caliber, with brass valve-seat and valve.

No. 2 is made with brass tube for attaching lead pipe of 1 or $1\frac{1}{4}$ inch caliber, with brass valve-seat and valve.

No. 3 is made with brass tube for attaching lead pipe of $1\frac{1}{4}$ or $1\frac{1}{2}$ inch caliber, with brass valve-seat and valve.

No. 4 is made for attaching wood pipe below the cylinder or working parts—all above being of iron. This pump is so constructed as to let off the water to prevent freezing in the coldest weather, provided the platform of the well is made tight.

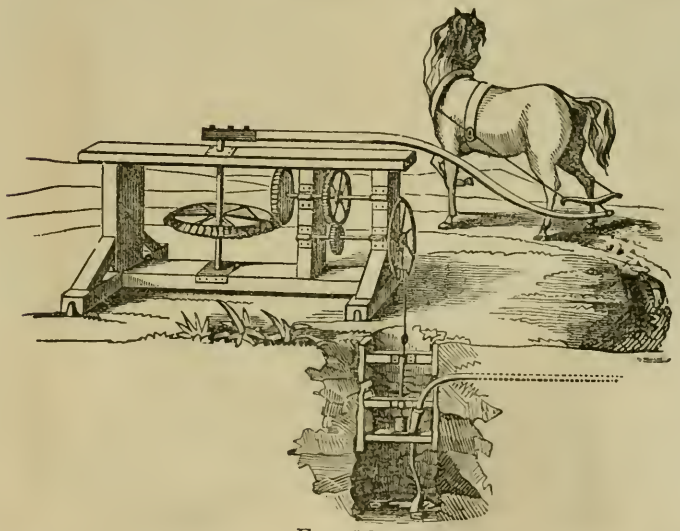


Fig. 18.

No. 18.—This engraving represents a cheap, strong, and durable Horse-power, for pumping water, and other purposes. It is portable, of simple construction and with careful usage will last many years.

It can be taken apart, packed, and transported with ease. When in operation the horse occupies a circle of 24 feet in diameter. It is 5 feet 6 inches long, 3 feet wide, and 2 feet 6 inches high. It can be worked with one or two horses or mules.

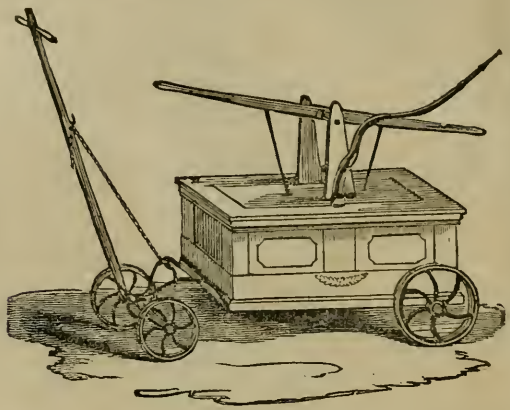


Fig. 19.

No. 19.—Garden and Fire Engines.—Double and single-action Pumps, and double and single Brakes—on four wheels, with tongue, and on two wheels, with handles, like a barrow. These are extensively used in gardens, nurseries, &c. They are found to be very useful in wetting walks and lawns, extinguishing fires, &c.

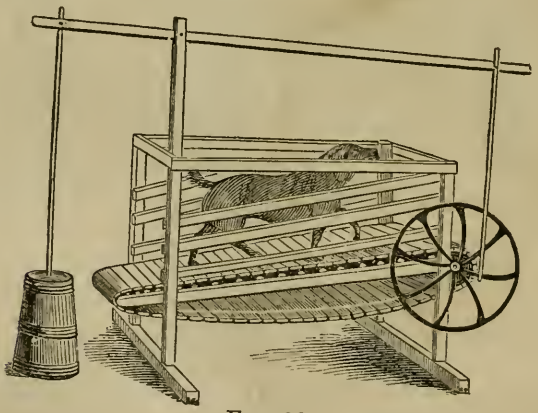


Fig. 20.

No. 20.—Dog-Power, for Churning, Driving Grindstone, &c. The above cut illustrates our most approved Dog-Power. It is a sim-

tle endless platform, formed upon two India-rubber straps, with sprips of light wood firmly riveted to it. This endless platform is supported by a drum about 12 inches in diameter at each end, and the whole so arranged that it can be elevated to any angle required by the weight of the dog, or work to be done by it.

It is equally adapted for sheep, and many prefer them to dogs.

No. 21—Iron Well Curbs.

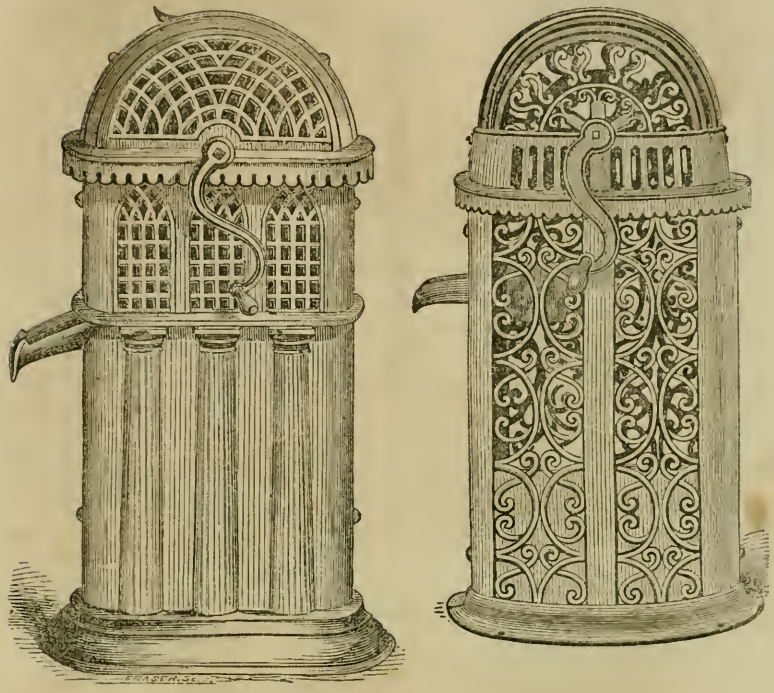


Fig. 21.

Fig. 21 represents two styles of Iron Well Curbs made by us for the Chain Pump. They are a most admirable and complete device, combining *ornament* with *utility*, and are without a rival in the market.

Having been before the community for a long time, they have become generally known, and from actual test have continued to grow more and more in favor and demand, and need only to be seen to secure a ready approval.

No. 22.—Zinc Tubeing for Chain Pump.

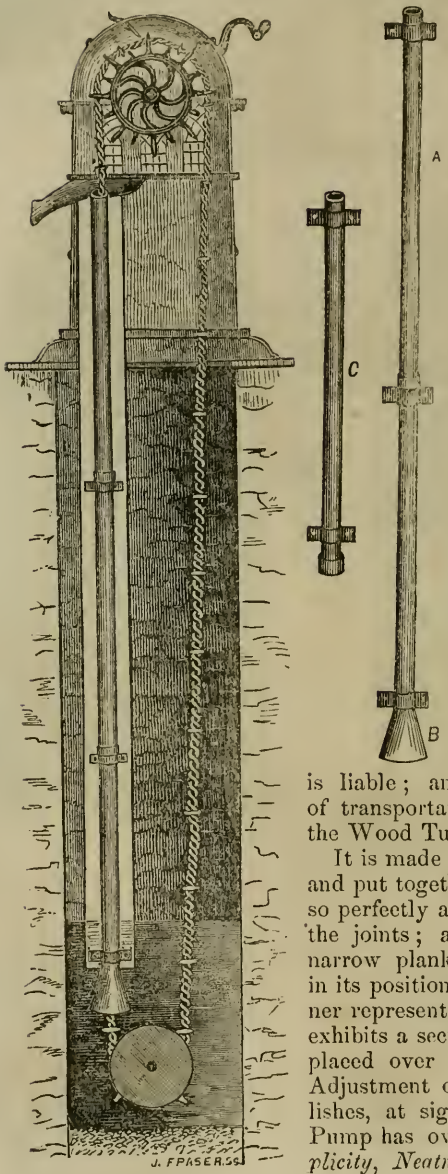
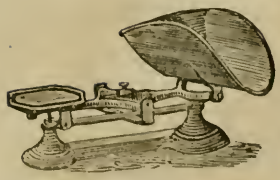


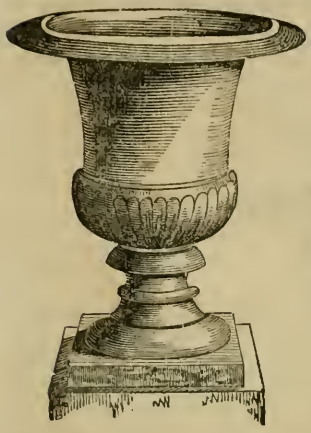
Fig. 22.

Fig. 22 is a representation of the *New Zinc Tubeing* for the Chain Pump which seems to be all that is wanting to render this very popular pump perfect in every particular. The only serious objection which has ever been urged against the Chain Pump, has arisen from the fact that the water after a short time has been rendered impure by the friction of the Buttons on the sides of the Wood Tubeing—a very serious objection indeed, whether considered in reference to its use for *Dairy* purposes, or in fact any other. But this objection, it will be at once seen, is entirely obviated by the Zinc Tubeing, while it is entirely free from other difficulties to which the other is liable; and is much more easy of transportation and adjustment than the Wood Tubeing.

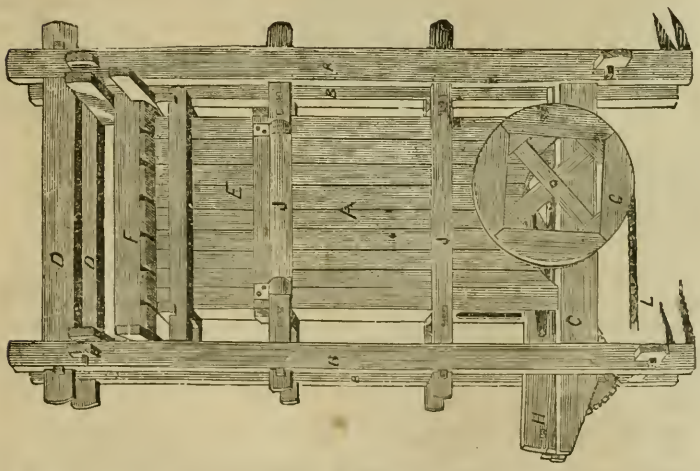
It is made of heavy zinc in sections, and put together without any difficulty, so perfectly as to require no solder at the joints; and being fastened to a narrow plank or board is easily fixed in its position in the Well, in the manner represented in the Cut. This Cut exhibits a section of a Well and Curb placed over it, showing the Complete Adjustment of the whole; and establishes, at sight, the claim which this Pump has over all others for its *Simplicity, Neatness and Perfection.*



No. 23.—Counter Scales.—This article is considered perfect, for weighing light weights. They can be furnished at wholesale or retail



No. 24.—Ornamental Garden Vases, of various patterns and sizes; some new and very handsome. They are both useful and ornamental, and withal very desirable for porticos, walks, lawns, gardens, &c.



No. 25.—Hay and Cotton Presses.—We have hay and cotton presses of various forms and qualities. We have likewise oil presses. They can be worked by hand, horse, or steam-power.

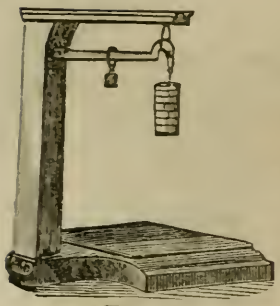


FIG. 26.

No. 25.—Platform Scales, of various sizes, weighing from a pound to a ton or more with the greatest accuracy. They are not liable to get out of order, and are easily repaired when, by long or rough usage, they may have become worn or broken.

HORTICULTURAL IMPLEMENTS.

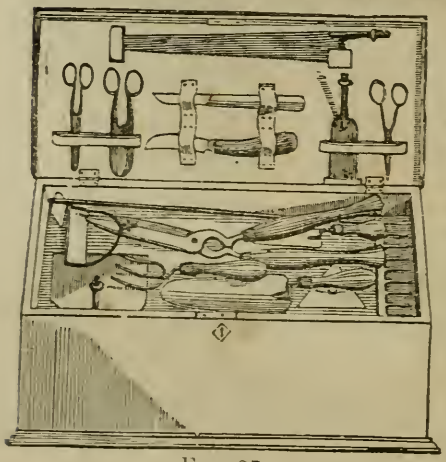


FIG. 27.

No. 27.—Horticultural Tool-Chest.—"A place for every thing, and everything in its place," is a motto whose observance is greatly facilitated by the use of this article. Those we sell are very complete —containing a considerable variety of implements.

No. 28.—Anderson's Patent Hammer.—The claws of these hammers are turned back, and extended so as to surround the handle with a ring, and prevent its breaking in drawing nails, or drawing out or becoming loose. They are made of the best cast-steel, and are of superior workmanship. We have six different sizes, weighing from half a pound to a pound and a half.

No. 29.—Fruit Gatherer.—To gather fruit without bruising, either with a net attached to catch the fruit as it drops, or a sort of cloth hose to conduct the fruit to the ground.

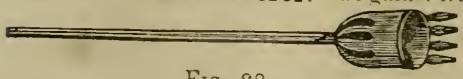


FIG. 28.

No. 30.—Pruning Saw and Chisel.—This is a chisel with a blade about three inches wide and four inches long, with a wooden handle of sufficient length to allow the gardener to stand on the ground and trim in any part of the tree. A saw about 12 inches long is fastened on the side of the chisel and chisel socket, which is used in sawing off the larger limbs.

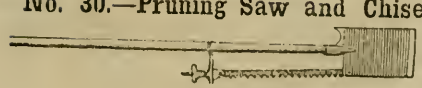


Fig. 12.

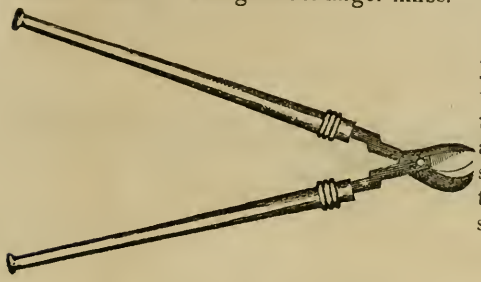


Fig. 31.

No. 31.—Lopping or Branch Shears.—For trimming shrubbery and the excision of such limbs and sprouts as have not sufficient body to admit the use of the pruning saw and chisel.

Fig. 32.

No. 32.—Pruning Scissors with Bows.—For cutting small twigs, trimming flower bushes, and cutting flowers. A useful article for ladies.

No. 33.—Sliding Pruning Shears.—These have a movable centre, so that one of the blades makes a sort of draw cut, like a knife, and leaves the surface next the tree smooth, instead of the mesh cut of ordinary shears.

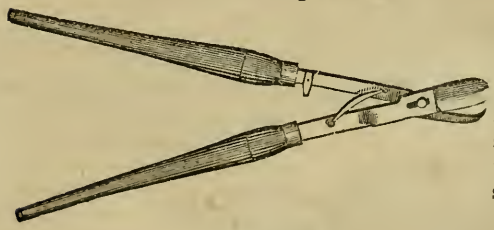


Fig. 33.

They are better finished and not so long as the lopping shears.

No. 34.—Garden or Hedge Shears.—This article can be had with or without the pruning notch. The notch is of advantage for trimming hedges or shrubbery, as it will cut a much stronger twig than the shears.

Fig. 34.

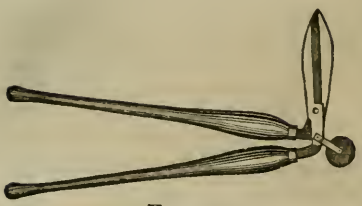


Fig. 35.

No. 35.—Grass Edging or Border Shears.—For trimming the sides of baths and grass edges. They are so made that the operator may stand upright whilst using them. The wheel is sometimes attached, and is by some considered an advantage.

Fig. 36.

No. 36.—Ladies' Garden Shears.—Useful for many purposes.

Fig. 37.

No. 37.—Ladies' Pruning Shears.—These have wood handles, and are handsomely and lightly made. They are used for trimming shrubbery and cutting branches too long for hand shears.

No. 38.—Pole Pruning Shears.—This is a pair of pruning shears attached to a pole of any required length, and worked by a cord and pulley attached to a lever. It will cut branches 1½ inches in diameter, and the operator may stand on the ground and prune in any part of the tree that the pole will reach. A small size of this species of shears is used for cutting small branches from shade trees, and fruit trees to which insects are attached. Fine fruit may be gathered by their being cut at the stem, and caught, in falling, in a basket attached to the instrument, when used for this purpose.

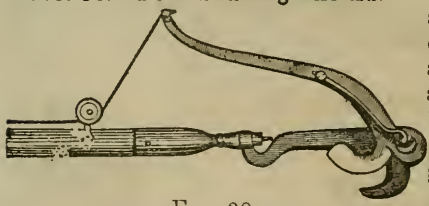


Fig. 38.

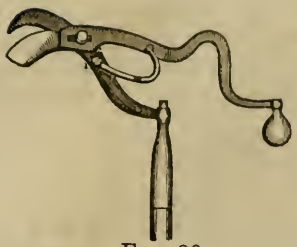


Fig. 39.

No. 39.—Pole Pruning Nippers. These have a sliding cut, which leaves the branch cut off as smooth as it could be done with a knife. It is better than the pole pruning shears, but will not cut a branch over an inch in diameter.

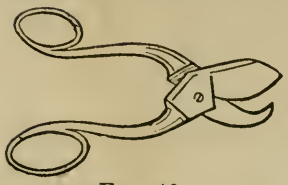


Fig. 40.

No. 40.—Pruning Scissors.—For trimming clusters of Grapes growing too thick together, and for trimming out leaves, twigs, &c.

No. 41.—Flower Gatherer.—This is a pair of scissors combined with tweezers and pincers. Flowers, such as roses, &c., having thorny stems, may be gathered with this instrument without inconvenience; the branch or stem cut off being held by the pincers, and drawn out with the instrument from among the thorns.

Fig. 41.

Fig. 42.

No. 42.—Hand-sliding Iron-handled Shears.—With a sliding centre and spring, makes a perfectly smooth cut, and is the best instrument for pruning roses.

Fig. 43.

No. 43.—Grass-edging Knife.—A knife fitted to a straight handle. It is used for paring the edges of grass-bordering or walks. It will also cut the outline of sods, that they may be more easily raised by the spade.

Fig. 44.

No. 44.—Briar or Bill Hook.—Of various forms, for trimming hedges, cutting brambles, brush, &c.

Fig. 45.

No. 45.—Garden Rakes.—For smoothing garden-beds—sorting out stones and hard lumps of earth from their surface. Also for covering seeds, and raking out weeds, cut grass, &c.

Fig. 46.

No. 46.—Grass Lawn Rakes, with teeth in the form of a lance, sharpened on both sides, and is a sort of comb to tear off the flower-heads or buds of daisies, dandelions, and other plants in green lawns

No. 47.—Garden Trowels.—Used in transplanting garden vegetables and small roots, trees, &c. Useful, also, for dressing the soil among tender plants in confined situations, and for loosening the roots.

Fig. 47

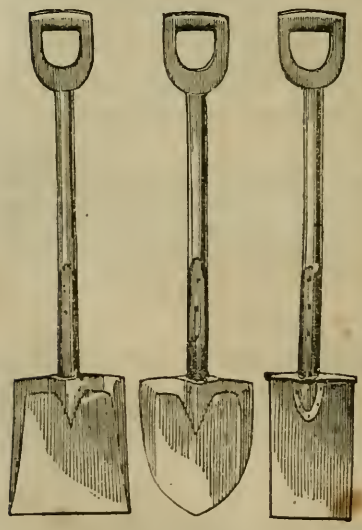


Fig. 47½.

No. 47½.—Spades and Shovels.—O. Ames', Carr's, Stone's and Stackpole & Co's cast-steel and iron shovels. Also, Stackpole & Co's grain-scoops; a very superior article. The cast-steel shovels, although a new article in the market, have, to all appearance and in use, all the merits of O. Ames' best, and at the same time are better finished. It certainly is an excellent shovel, and is afforded considerably less than Ames', Carr's or Stone's, are all from the same manufacturer, and are too well known to need further notice here. A full supply on hand, for sale single or by the dozen, at the lowest prices.

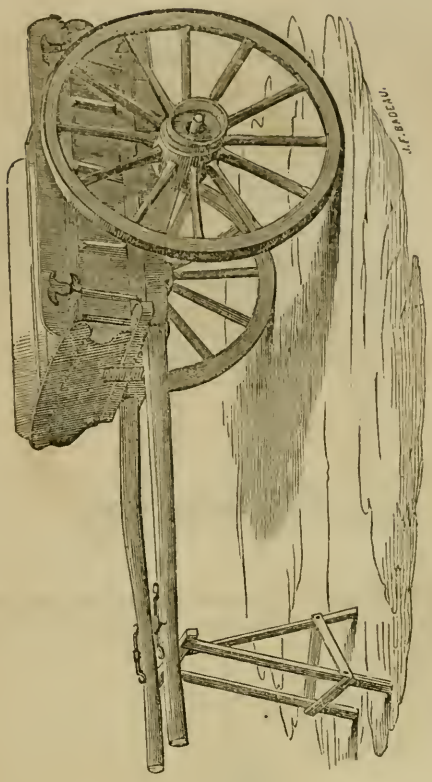


Fig. 48.

No. 48.—Heavy Horse-Carts.—We make carts of various classes and sizes, for mules and horses, and also for oxen. Some of these are made to discharge their load by canting up the box at the front. They can be used with one or two horses.

No. 49.—Canal or Railroad Barrow.—Various sizes.

Fig. 49.

The above are made by responsible manufacturers, and warranted equal to any others in the country.

No. 50.—Brush and Bramble Hook.—For cutting briars about fences, and brushes. It is very strong, and may be used in cutting the undergrowth of forests.

Fig. 50.

FIG. 51.

No. 51.—Garden Chairs.—We have various patterns of these chairs. They are of cast iron, and much used in ornamenting gardens and lawns.

FIG. 52.

No. 52.—Lumber and Baggage Wagons.—We have a variety of wagons, capable of sustaining from one to two tons, on good roads. We make them with wooden or iron axles, with or without springs.

ROLLERS.

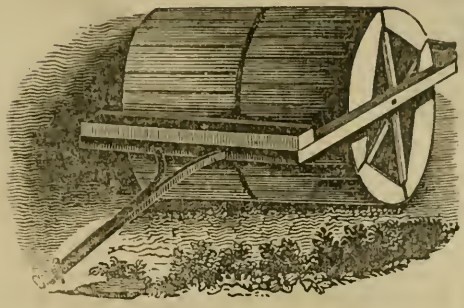


Fig. 53.

This implement is used to smooth the surface of the field, and fit it for the cradle. It crushes or crowds into the earth all sods, stones, or other loose matter which the harrow may leave to disfigure the surface of the field, or to embarrass the business of harvesting. It presses the earth about the seeds, and ensures an earlier germination. It also assists light, sandy and porous soils to hold the roots of the plants, and to retain moisture, to promote their growths, and to prevent the drying-up of manure, or the exhalation of their gasses, which are so beneficial to vegetation.

Fig. 53 represents the best kind of Rollers, being wholly of cast-iron, except the tongue or thills. They are from 18 to 24 inches in diameter, in separate sections of one foot in length, turning independently of each other on a wrough-iron axletree. Four sections may be rigged with thills and drawn by one horse; but six sections require two horses. They are of all sizes and weight for hand or team.

MOWING AND HARVESTING IMPLEMENTS.

We have every variety of Scythes and Snaths, which are sold separate or together. We have some strong Snaths for Bush-Scythes, with two heel-rings. The Scythes are of the best cast or German steel, double refined, with backs single or double, ribbed or plain.

No. 54.—Snath and Scythe.

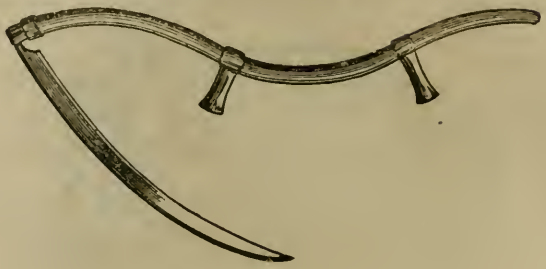
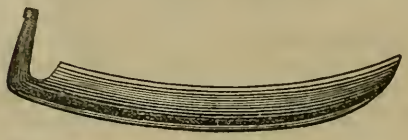


Fig. 54.

Grass, Long Grain, and Bramble or Bush Scythes.

No. 55.
A.



No. 56.
B.

No. 57.
C.

In the selection of a scythe regard should be had to the ground upon which it is to be used, and the work that is to be done with it. On smooth meadow lands or bottoms and surfaces, free from stones, a long narrow scythe, like B, but a little more turned at the point, is best. The strokes being all with a regular curve, a wide swoth can be carried, and the cutting of the grass be close and even, securing all the thick undergrowth which such lands produce. The harder the temper of the scythe, provided it does not crumble, the longer it will hold an edge. On sandy soil, or lands sometimes overflowed on the margins of streams and rivers, the grit that works up among the grass presently destroys the edge on a soft-tempered scythe. The liability of a scythe to become battered on stony land requires that its temper should be such as will afford it tenacity. A hard brittle edge would require too much time to grind out its batters,

which it would be likely to receive by use in stony uplands. For rough-surfaced uplands a shorter scythe is to be preferred, that it may be adapted to the inequalities, and be carried more readily through the grass, by the sideway stroke, often found necessary, to pick out the grass among the rocks and stumps. A wide scythe, C, lifts the edge higher from the ground, and is preferable for rough upland mowing.

No. 58.—Grain Cradle.—Of the latest and most approved make, with a superior scythe.

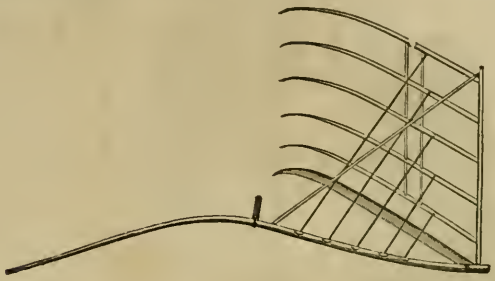


Fig. 58.

No. 59.—Revolving Hay-Rake.—These Rakes are among the most useful of inventions, as they facilitate the saving of hay from sudden showers and storms, and diminishes the necessary help required in the hay season.

With this Rake, by a man, a boy and a horse, from 15 to 25 acres can be raked in a day. It can be used on quite rough ground

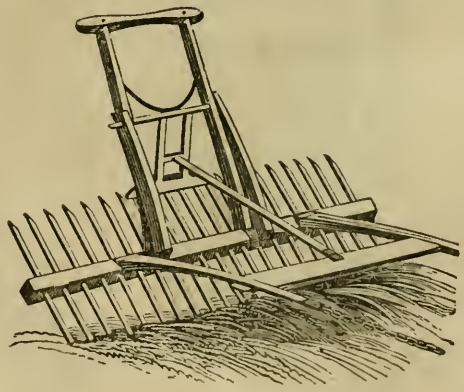


Fig. 59.

No. 60.—Mayher & Co's Horse Power, with Thresher and Separator.—Of Mayher and Co's Two and Four-Horse Powers (See Figs. 60, 60½, and 60½) we manufacture two sizes—one to be driven by two horses, and the other, much larger and stronger, to be driven by four.

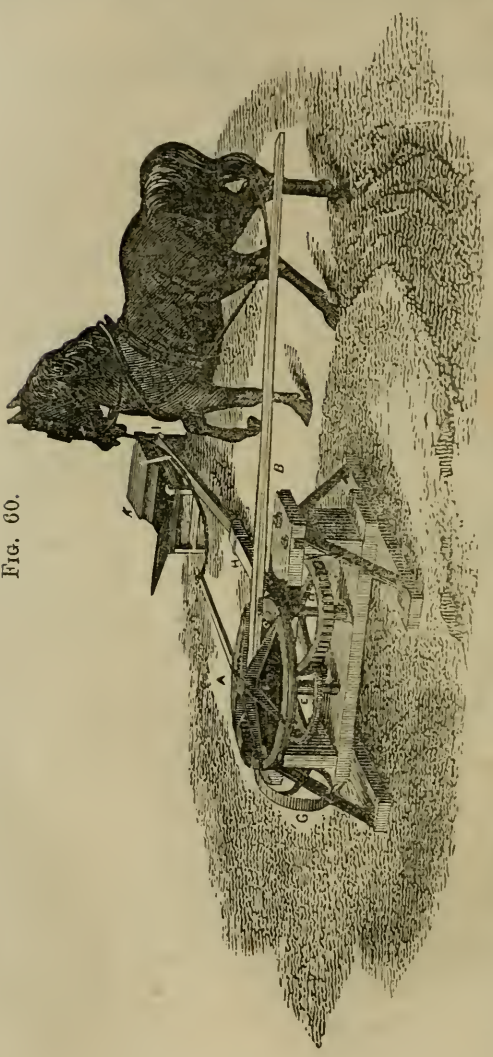


Fig. 60.

The main or crown wheel is so arranged as to receive two draft-levers or sweeps, and two guide-poles to lead the horses; the lever and the guide-poles are bolted fast to the main wheel. This is one of the best-contrived horse-powers in the United States. It is very simple, strong, and a durable machine. It is a portable power, and can be taken from place to place, for any purpose. The size of the power is about 5 feet long, 2 feet high, and 3 feet wide—weighs about 700lbs. The levers ought to be about twelve feet long from end to end, made out of good timber. It is calculated to drive any kind of machinery, such as Threshing-machines, Cotton Gins, or any thing similar. It is a first-rate article to work a pump, by putting a crank to the shaft instead of a band-wheel—and it can be driven by one horse for that purpose. It was especially got up to drive a Threshing-machine, which is done by passing a band from the band-wheel through a pulley-box, that the horse

walks over, up to the pulley. On a good Threshing-machine, (such as we make to go with them,) you can, with a two-horse power, thresh from 150 to 200 bushels of wheat, and from 250 to 300 bushels of oats, per day. And with the four-horse power, you can do nearly twice the work. They require from two to three men or boys to work them. They ought to be kept well oiled when in operation. They are very much liked by those farmers that have them in use. They have taken the highest premium at the New York State Fair.

Two-horse power.
Four " "
Two " " Thresher 24 inch cylinder.
Four " " " 30 " "
Belt, forty feet.
Straw-Carrier attached to either Thresher.

Fig. 60¼.

Fig. 60¼ represents the pulley-box of our Horse Power, and how the belt is put through the same, from the Power to the Thresher, as it is very important that it should be put through in this way.

Fig. 60½ represents our Threshing Machine, with Straw-carrier and Separator attached.

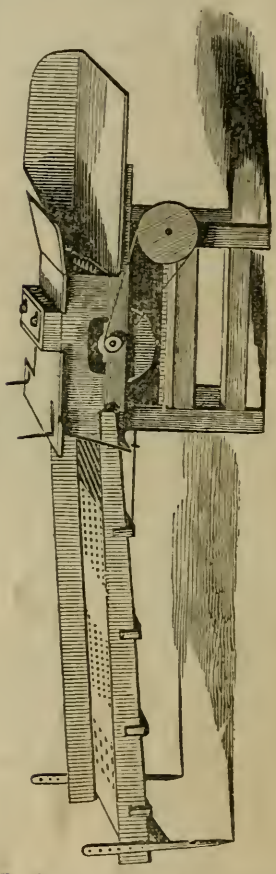


FIG. 60½

Directions for putting Mayher & Co's Power in operation.

The Horse Power must be firmly fastened to the ground, by placing two pieces of timber, from 9 to 12 inches in diameter, and 7 or 8 feet long, just below the surface of the ground, and at the same distance apart that the cross pieces are on the bottom of the frame. The dirt must be well rammed in, and stakes driven down at each end: then place the horse-power on the timbers, and screw four bolts (7 inches long) through the bottom of the iron braces, firmly into the timbers below, then put on the levers, say 10 or 12 feet long, with guide poles, and place the roller-box so that the horse will walk over the center of it, and it is ready for operation. The Threshing Machine can be put in the barn, or out in the field, as may be most convenient, and should be fastened securely on boards, or in any other way, so that it is firmly secured—and at any distance from the horse-power, so that it is out of the horses way. The working parts should be well oiled with sperm or sweet oil, the teeth of the wheels greased before starting, and the person who tends the machine should take hold of the band and get it motion before the horses are started.

The band should not be less than 40 feet long and 3½ inches wide, and should not be too tight. It is better it should slip a little, so that if the horses make a sudden start they will not meet with too much resistance.

Rice Threshers.—Planters who raise but a small quantity of rice will find the above grain threshing machines both convenient and economical; as few would wish to go to the expense of the machines which are constructed especially for the rice regions.

CORN SHELLERS.

No. 61.—Hand Corn-Shellers.—The accompanying cut is a good representation of the double balance-wheel machine. This is believed to be one of the most efficient and durable shellers ever used as a hand-sheller. Having been in use for the last ten years or more, and having had some slight improvement, it still stands at the head of the list of shellers for ease of operation, amount of work and durability. With two men 200 bushels of corn are shelled per day: or with two hoppers and large balance-wheels, double that amount can be done with three men. It is equally well-adapted for the large ears at the south and west as for the smaller ears at the north.—They have a balance-wheel on each side: this balances the machine, and the wear of the shafts is more equal and durable. It is about one and a half by two and a half feet on the floor, and three and a half feet high. With the single hopper it weighs about 114lbs.: with double hopper and balance-wheel it weighs about 150lbs

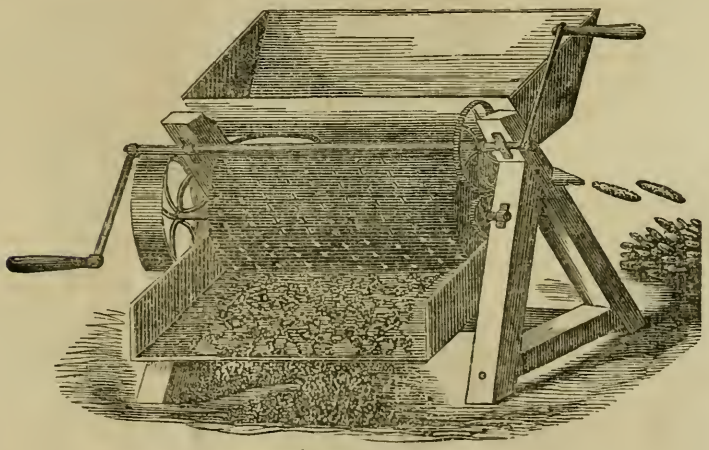


Fig. 62.

No. 62.—Virginia Corn-Sheller.—This machine is well adapted for shelling ordinary Virginia and Maryland crops, or suitable for medium

Corn Planters. They may be worked by one or two men, or by horse-power, and will shell by manual labor about 400 bushels, or by horse-power about 800 bushels per day. As regards simplicity of construction this machine rates A, 1 It separates the corn from the cob, both of which are left unbroken, and in the best possible order.

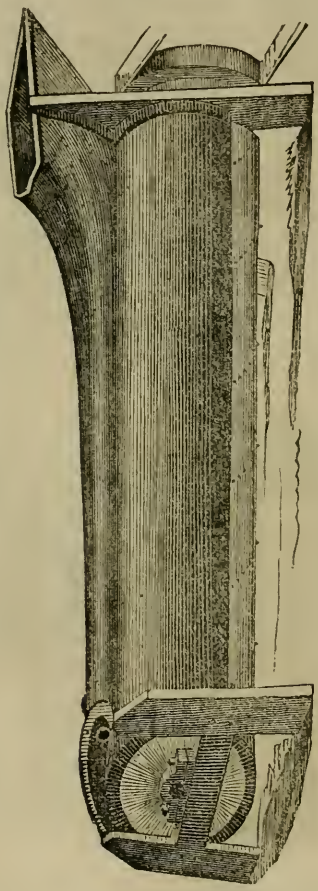


FIG. 33

No. 63.—Smith's Corn-Sheller.—Fig. 63 represets Smith's Corn-Sheller and Separator. It is worked by either horse or other power. It will shell from 1200 to 1500 bushels of corn in a day. The corn is separated from the cob while the machine is in operation. This machine is a perfect sheller, as all the corn is taken off the cob as it passes through the sheller without breaking either the corn or the cob. It is likewise very durable, being made of cast-iron. It is about 2 feet high and 6 feet long, and weighs about 500lbs.

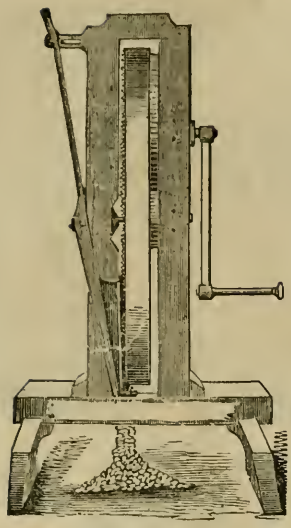


FIG. 64.

No. 64.—Vertical Cast-Iron Corn-Sheller.—The Vertical Corn-Sheller is a hand-power machine, and has been in successful use in the southern and western States for at least 30 years. The construction is so simple that the most careless hand can scarce put them out of order—from this fact they may be called the *negro's own corn-sheller*. Their capacity is about 200 bushels per day.

No. 65.—Goldsborough's Patent Corn-Sheller and Shucking Machine.—This machine is worthy the attention of extensive corn growers. They are capable of shelling 130 bushels per hour, and are warranted to shell 1000 bushels per day, without an extra effort. They break no corn, and leave none on the cob. It will also husk and shell 800 bushels of corn per day. The construction is remarkably simple and durable—made with studded cast-iron cylinders, set over a spring concave, formed of twisted revolving wrought-iron bars, which admirable and simple plan produces an ease, security and rapidity of performance that is truly astonishing.

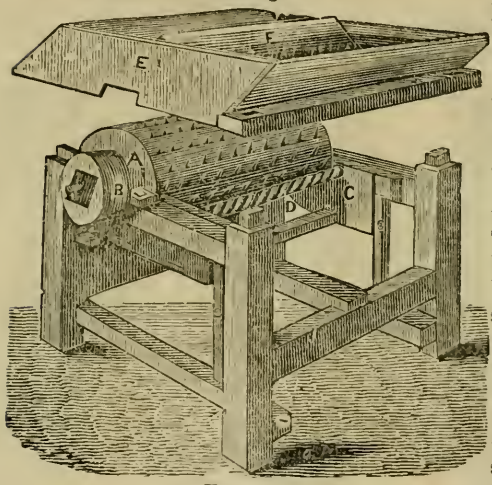


FIG. 65.

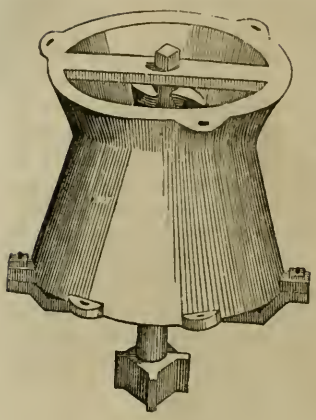


FIG. 66.

No. 66.—Bark Mill and Corn and Cob Crusher.—This is the common Bark Mill of the tanners, but is sometimes made of smaller size. It is used, also, to prepare the corn and cob for grinding in the ordinary grist-mill. Experience has fully tested the utility of feeding the corn and the cob-meal together in fattening cattle or swine. Whether the nourishment in the cob be more or less, it affects the digestion and keeps the animals in a better state of health, and prevents them from becoming surfeited from overfeeding. Corn meal ground with the cob becomes a more safe feed for horses than when it is ground alone.

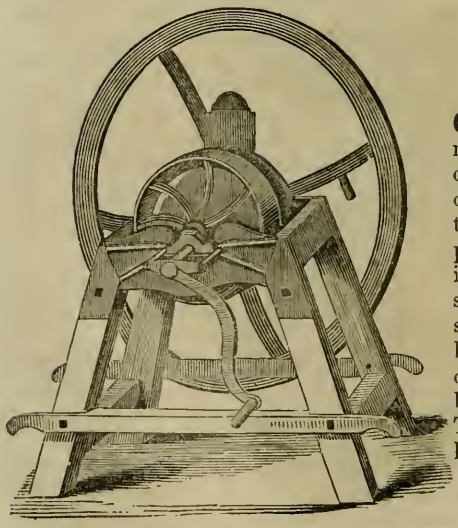


FIG. 67.

No. 67.—Corn and Cob Crusher.—In this machine the cobs are first cut in short pieces by means of a strong spiral knife attached to the axle, and then passes between two grinding plates made of composition metal, that will last some two or three years and be then replaced by new ones. Duplicate plates may be ordered with the machine. They are worked by hand or horse-power.

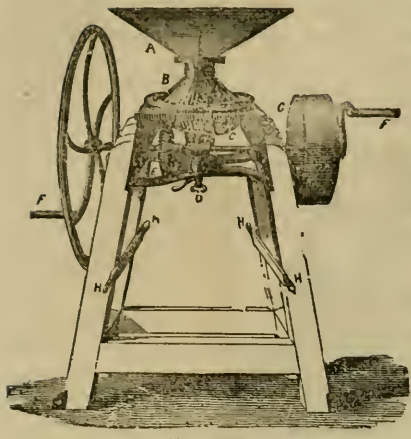


Fig. 68.

No. 68.—Hand and Horse Grain-Mill.—This is a very durable and efficient machine, simple in construction, and not liable to get out of order.—With one-horse power it will grind four bushels of fine meal per hour, and more if the meal is coarse. Like No. 67, when the grinding plates are worn out others can be put in. Duplicate plates can always be furnished. It is also calculated to be worked by one or two men, and will grind half the above quantity. The screw D is the regulator

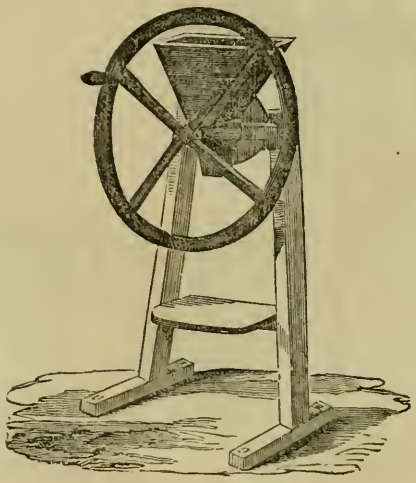


Fig. 69.

No. 69.—Hand Grain-Mill.—The annexed cut represents a very convenient portable hand-mill, for use on plantations, or by persons living remote from any public mill. It will grind from one to two bushels per hour, and is well fitted for grinding coffee and spices. This mill can, however, be propelled by water or other power. The plates can be replaced when worn out—as in other iron mills.—The attachment of horse power to the propulsion of mills, etc., is shown in Fig. 60.

Besides the above we have **Coffee and Grain Mills** of a SMALLER SIZE, which will be sold at less price.

We have also **Fitzgerald's Patent Burr-Stone Mills.**

No. 70.—Rice and Coffee Huller.—We have various patterns of these machines that will hull from two to ten bushels per hour, according to the size of the machine.

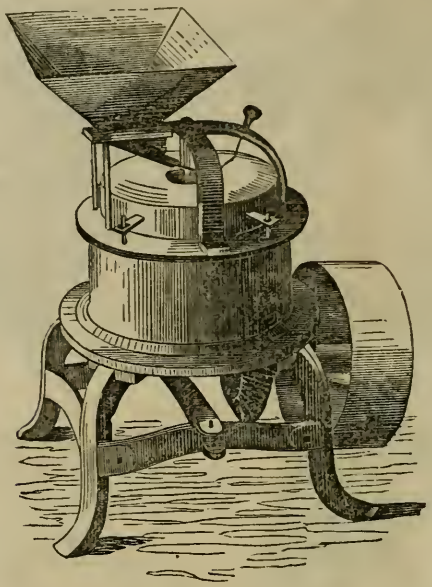
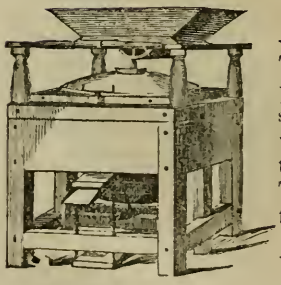


Fig. 70.



No. 71.—Portable Stone Grain-Mill.—For Hand, Horse, or Mule Power.—This cut represents a mill for corn, wheat, or plaster. They are made of the best French stone, and are of different sizes. They are very durable, and of a construction so simple that they do not easily get out of order.—They are easily regulated to grind coarse or fine, at the will of the operator.

When the stones become worn they can be pecked up with a pecking-tool.

We have on hand of the following sizes, viz:—

13 inches in diameter, 250lbs. weight, 2 feet square, 4 feet high.—Grinds 3 bushel per hour.

16 inches in diameter, 400lbs, weight, 2 feet square, 4 feet high.—Grinds 4 bushels per hour.

20 inches in diameter, 700lbs. weight, 2 feet 8 in. square, 4 feet high. Grinds 5 bushels per hour.

24 inches in diameter, 1000lbs. weight, 3 feet square, 4 feet 6 in. high. Grinds 6 bushels per hour.

30 inches in diameter, 1400lbs. weight, 3 feet 6 in. square, 4 feet 6 in. high. Grinds 7 bushel per hour.

The 13 or 16 inch mills may be worked by two men or a mule.

20 and 24 inch mills by 2 mules or a horse.

30 inch " " 4 mules or horses.

These horse-powers are made of good material and are as durable as the mills. They can be applied to various purposes. They can easily be taken down and packed for transportation. For description see page 35 of this Catalogue.

No. 72.—Sugar Crusher.—These machines are in much demand by grocers and others. The sugar is crushed as taken from the hogshead, thereby equalizing the moisture of that taken from the sides and bottom, and much improving the appearance of the sugar. They are turned by hand, easily kept in order, and will crush from 6 to 12 hogsheads per day, according to size.

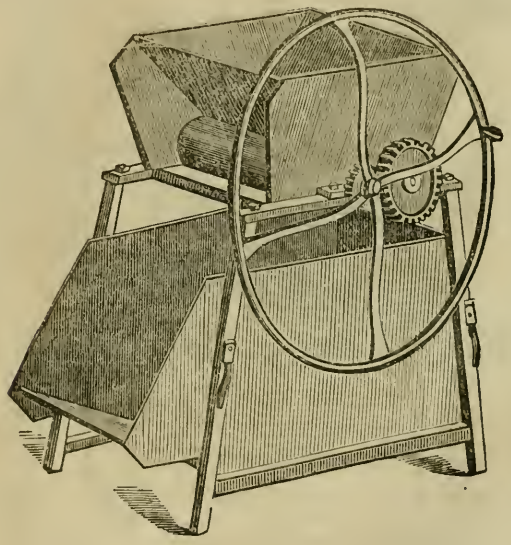
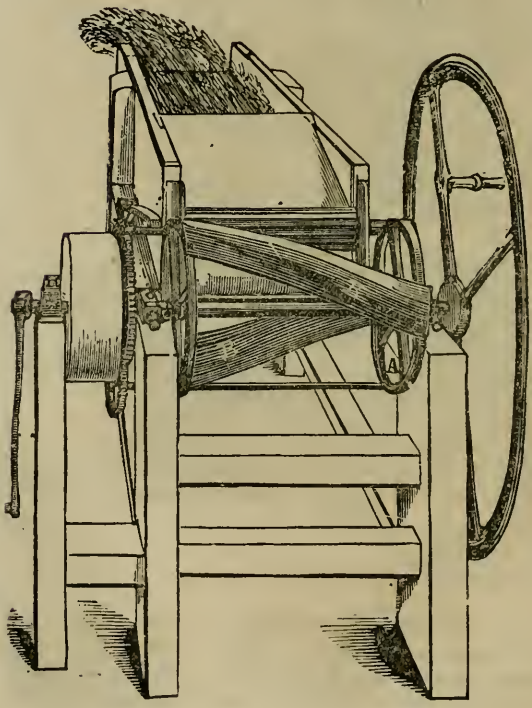


Fig. 72.

No. 73.— Patent Straw-Cutter.—These machines are thought to excel all others for cutting hay, straw or cornstalks. The knives being supported by wings cast on the cylinder are rendered sufficiently strong to cut the largest cornstalks with great ease and dispatch;

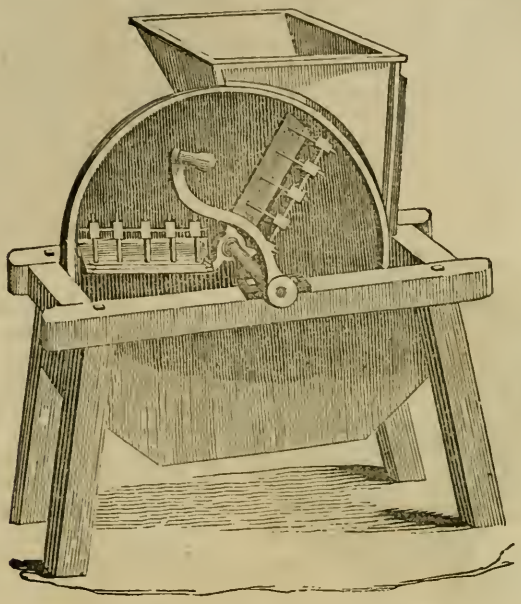
and as the knives are regulated by set-screws it gives them a great advantage over all other cylinder cutters in use. There are other cylinder cutters, the knives of which are fastened with rings at the end, without wings to support them; and on all such cutters the knives are wholly unadjustable, except with keys or wedges.

	No. 1	Cutter—with	8	knives.	
	2	"	8	"	
	2	"	10	"	
	3	"	8	"	
	3	"	10	"	
	4	"	8	"	
	4	"	10	"	
	5	"	10	"	power
Green's	Cutter,	"	12	"	
"			18	"	
"			24	"	



No. 75.—Cylindrical Straw-Cutter.—This is made for hand or horse power, and varies in dimension accordingly. The spiral knives B, B revolve and act on a bed of steel in such a way as to supersede the necessity of a very sharp edge. This will cut hay, stalks, straw, and other fodder, with great dispatch, and do its work quite well.

No. 76.—Vegetable Cutter.—This is used for cutting potatoes, carrots, and other roots, for horses cattle and sheep. The cutting-wheel is made from cast-iron, with timbers projecting like plane-irons, which slice the vegetable thin, while another set of trimmers cut these slices into slips, so there is no danger of choking the animal when they are eaten.



CUTTING OF FOOD FOR CATTLE.

Some of the advantages resulting from the use of the machines for cutting of fodder, may be stated—

1st. The saving of fodder; as waste is prevented in oats, and in hay. &c., that is liable to be pulled from the rack and trodden under foot. The juices in the heavy butts and corn-stalks are as nutricious as those in the lighter portions of the fodder, while the hard shells and surfaces cover those to be refused, when they are uncut.

2nd. The hard surfaces, when made fine, have a sort of medicinal property, in giving tone to the digestive organs, and a healthy action to the whole system.

3d. The feeding of grain when mixed with cut fodder is relieved of its tendency to bind the action of the bowels, and made to contribute its full nourishment to the healthy support of the animal to which it thus fed.

The great advantages as well as saving that are secured by these Straw Cutters is sufficient to commend them for use on every farm and plantation. Add to this the fact that their use can occupy a season of the year when the time could not be devoted to other pursuits with the same profit.

Both straw and hay should be seasoned with a little salted meal, after being slightly wet, several hours before being fed to the stock.

We have various kinds of straw cutters in addition to those already specially noted. The simple hand cutter is only useful where but a small amount of work is to be done, and where but one or two cows, or other animals are kept. Any considerable stock requires our larger machines, more effective adaptation, and calculated for horse or other power. These machines will cut hay, stalks, and shucks, very fast, and with the greatest ease. They are perfect self-feeders, without the appendage of complicated machinery for this purpose—the whole being of simple construction, and not liable to get out of repair.

We have larger-sized machinery for cutting sugar-cane.

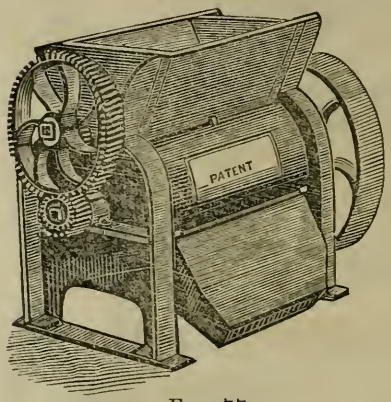
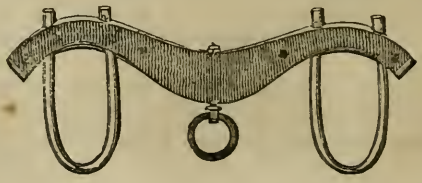
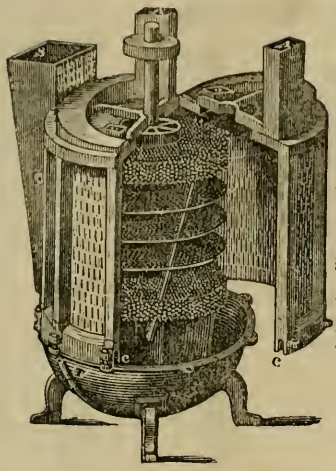


Fig. 77.

No. 77.—Improved Corn-Cracker.—A superior invention for cracking corn and cobs, previous to passing through mill-stones, and for grinding the same suitable for provender. Also, for cracking corn alone suitable for hominy, and the use of stables. Also, for cracking drugs; hemlock bark for tanning, and hard coal for forges.

No. 78.—Ox-Yokes and Bows.—We have these articles constructed on the best models, for ease and adaptation in their use. A bad ox-yoke wastes the strength of the team, and often, by chafing the neck, produces the most serious evils. In the article we furnish there is a most perfect adjustment in its shape to the various pressures to which it is subjected.





No. 79.—Improved Ventilating Smut Machine.—This machine has taken the premium at 8 different Fairs, and is one of those articles that improves its reputation the longer it is used. It has been so long before the public, and given such perfect satisfaction, that its further notice will not be necessary here. They are of different sizes and prices.

VARIOUS FARMING IMPLEMENTS, FOR DITCHING GARDENING, Etc.

No. 80.—Scraper and Hoe.

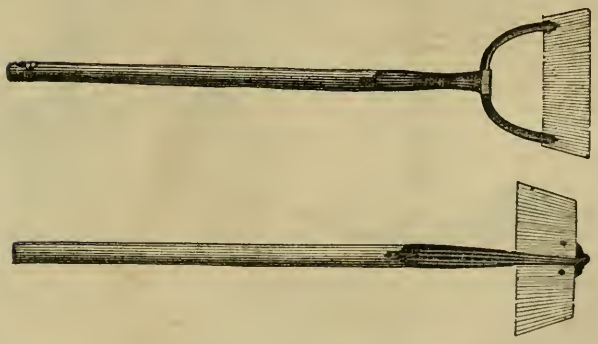


Fig. 80.

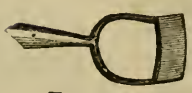
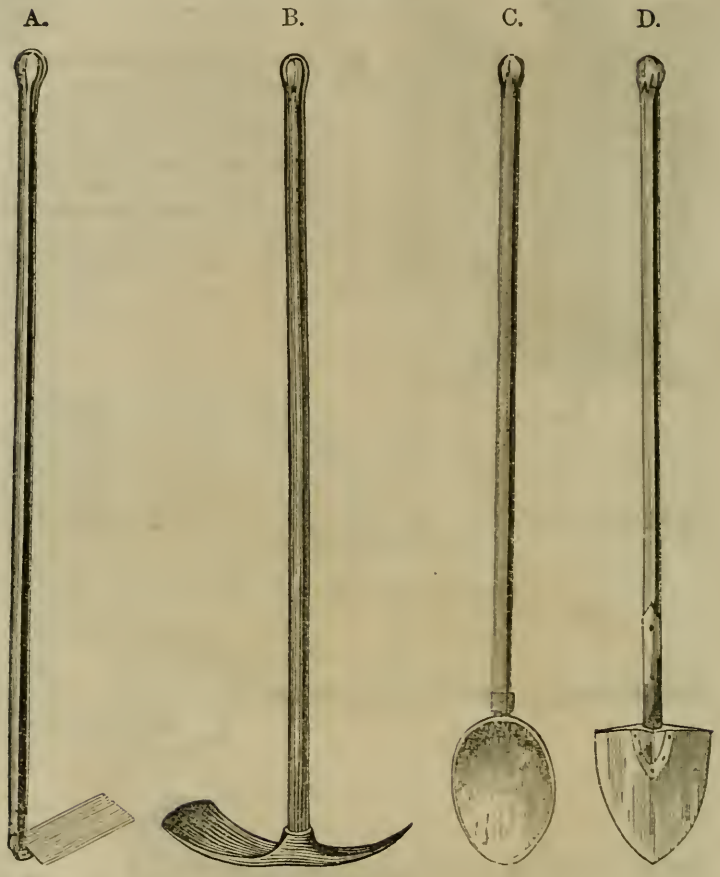


Fig. 80½.

A Garden Shuffler and light hoe. The first is often made small, with a short handle, like Fig. 80½—from three to twelve inches wide—used to stir the earth and to cut up the weeds in the garden.

Hoes, Spades, Picks, Shovels, Etc.



No. 81.—A, is a Field or Bog Hoe—strong and heavy.

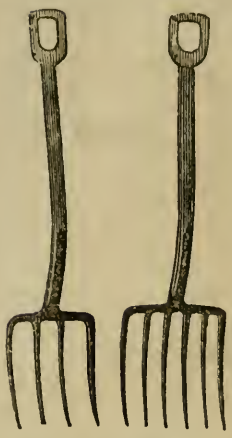
No. 82.—B, A hoe with a pick.

No. 83.—C, A Spoon Shovel, for digging post-holes.

No. 84.—D, a round-pointed Spade or Shovel.

We have also common Hoes, of different kinds and sizes, of a superior finish, made expressly for cultivating Sugar, Cotton, &c.

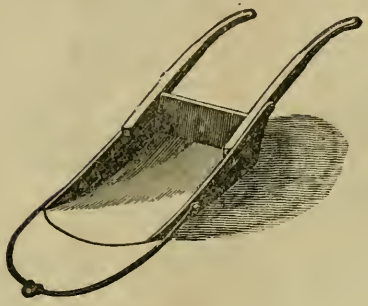
A. B.



No. 85.—Manure Forks.—These are cut out of a flat bar of steel, and, being fashioned into the proper shape, are spring-tempered, so that they will retain their proper shape with lifting the heaviest weight. The lifting of a half pound of unnecessary weight on a fork to every ten pounds of manure or matter amounts to the raising of an extra hundred pounds in every ton.

We also keep common manure forks, of all kinds and sizes.

FIG. 85.



No. 86.—Cast-Iron Dirt-Scrapers, or Ox-Shovels.—This article is of the most convenient shape for use on the plantation or in road-making, or any place that dirt is to be removed or deposited, where carting is not necessary.

FIG. 86.

No. 87.—Wheel Barrows.—Of these we have several kinds.—For CANAL BARROW see page 45 of this Catalogue.

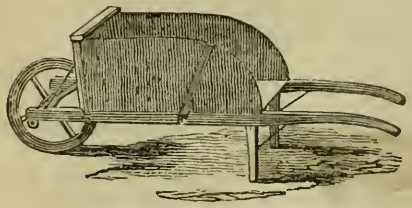


FIG. 87.

No. 88.—Hand Truck.—This is designed for use in stores in the removing of boxes, &c. We manufacture several sizes.

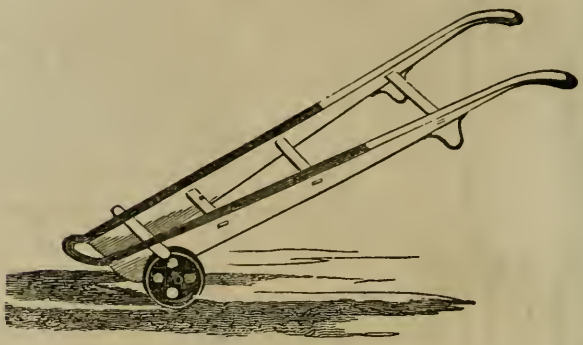
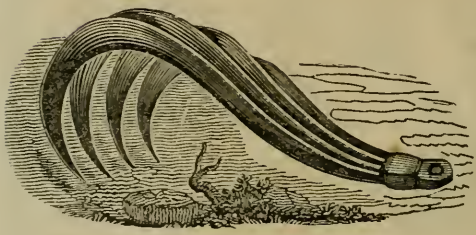


Fig. 88.



No. 89.—The Bush or Root-Puller.—The design of this is to hook on to the roots or a clump of bushes and pull them up. In grubbing alder bottoms they are of great convenience.

Fig. 89.

No. 90.—Fire-Proof Iron Chests, in which title-deeds, notes and jewelry, plate and money, can be preserved from destruction by fire, and secured from ordinary attempts at robbery.

We can furnish these safes of any dimension, as required.

Fan Mills.—Besides the Mill described on page 25, we manufacture several kinds of Fan Mills at a cheaper rate, but a good, strong, and efficient article.

We have also Grant & Co's, **Grain Cradles.**

Saw Mills.—For sawing large or small logs with greater or less expedition, according to their construction, cost and size.

No. 91.—Brick Machine.—We can furnish these machines to order, of different patterns, and dimensions. They are worked by hand, and will accomplish the work of two or three moulders by the old method. These make a very superior pressed brick, which for quality brings the highest market price. Several of these machines placed in one yard might be worked by a steam engine, instead of the common horse power, for grinding the clay

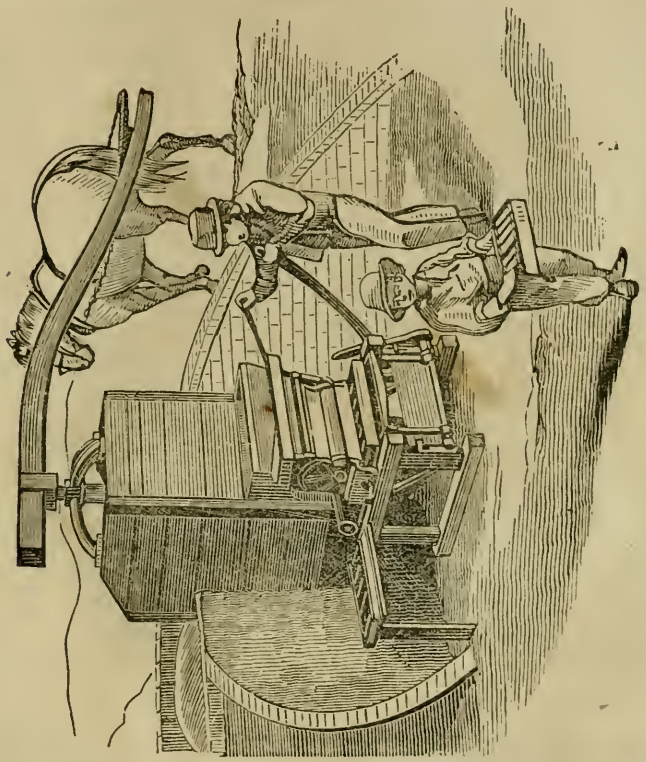
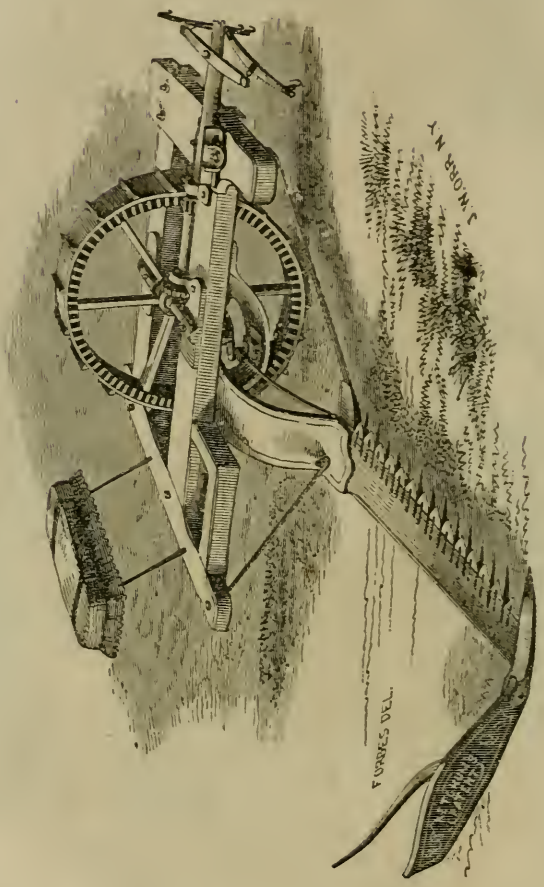


FIG. 91.

No. 92.—Glass Milk Pans—Furnished to order, with or without covers, holding from 6 to 12 quarts. These are a superior article, being easily kept sweet and clean, and not subject to be affected by electric changes in the atmosphere. Those who sometimes lose from fifty to a hundred pans of milk merely from the effects of a thunder storm will appreciate this advantage.

Fig. 93.



No. 93.—This is a representation of one of the best mowing machines. It is now so well known it is unnecessary to describe it much here. It will cut an acre of any kind of grass in an hour, with one pair of horses, and it has been done in 40 minutes. The whole machine weighs 750lbs. It will work as well on rolling land or hill-sides as it will on plain, level land.

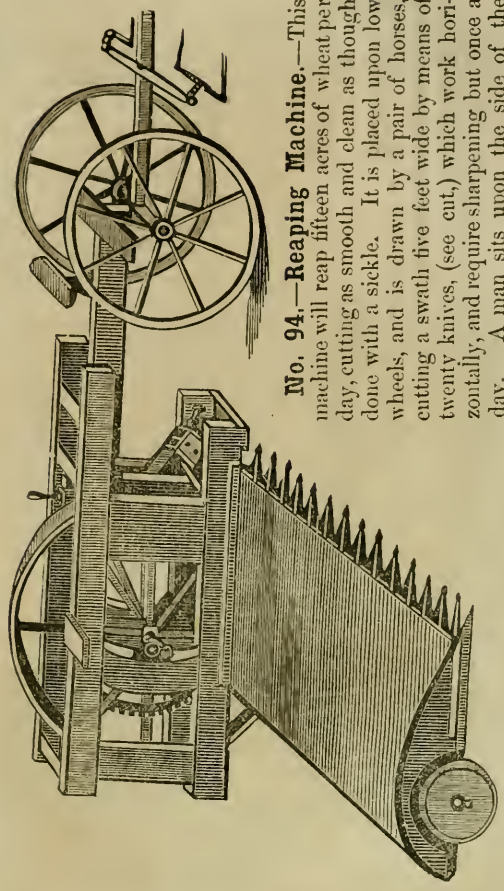


Fig. 94.

No. 94.—Reaping Machine.—This machine will reap fifteen acres of wheat per day, cutting as smooth and clean as though done with a sickle. It is placed upon low wheels, and is drawn by a pair of horses, cutting a swath five feet wide by means of twenty knives, (see cut,) which work horizontally, and require sharpening but once a day. A man sits upon the side of the platform, and, with a rake pushes off the grain as fast as it is cut. A field of other grain, either oats or barley, may be cut as handsomely and as expeditiously as a field of rye or wheat. These machines are spoken of in highest terms by all who have tested their utility.

No. 95.—Churns with Thermometers.—The Cylindrical Churns with Thermometer in the side are quite useful in determining the temperature of the cream, and when the churning should commence, (at 55° Fahrenheit,) and the rise of the temperature as the churning progresses, and at what temperature and the proper heat at the conclusion of the churning, (from 63° to 65°) to produce the greatest amount of butter in the least time. They have double metalic bottoms, in which ice or cold or warm water may be placed, to regulate the temperature.

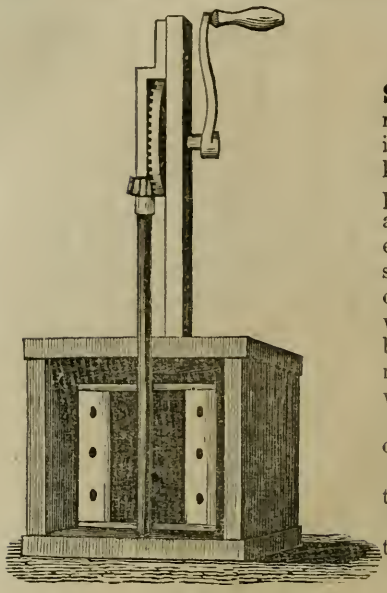


FIG. 96.

No. 96.— Mayher & Co s Superior Churn.—This cut represents a Churn made by us, which is considered the best and cheapest kind now in use. It is a very simple and durable article, and so arranged that the paddle or dasher can be taken out in a moment, so that the butter can be skimmed off and the churn washed out in a very short time. It will make butter from cream in ten or fifteen minutes. We make several sizes, varying in price

No. 1 Churn, calculated for one or two cows.

No. 2 Churn calculated for two to six cows.

No. 3 Churn, calculated for six to twelve cows.

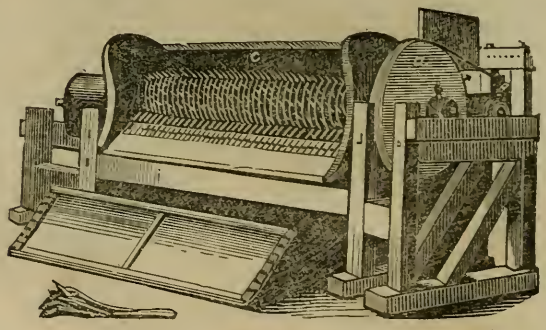


FIG. 97.

No. 97.—Eagle Improved Cotton Gin.—The Improved Cotton Gin is considered the best article in use, by those who have tried them. They are cheap and durable. They do the work to perfection. We have them for hand, horse, or other power

Hand-power Gin, from 12 to 20 saws.

Horse-power Gin, from 30 to 50 saws.

Cylinder with 10 inch saws should have 175 revolutions per minute. With 12 saws, 160 revolutions. With 13 saws, 150 revolutions.

Orders received for any of the following articles, with competent engineer, if required, for fitting them up, viz: Cast-Iron Fountains, Figures and Shells, Fire Engines, Double-Acting Force Pumps, Filtering Machines, Air Pumps, Wind-Mills, Water-Wheels, Leather Hose and Hose Coupling-Screws, Lead Pipe, Brass Work, &c., &c.

No. 98.—Cast-Iron Fountains.

Fig. 98.

These fountains are furnished us by the manufacturers, in every variety of style, size, and workmanship, to suit the different classes of architecture or localities which they may be intended to adorn. We can supply them to order at the lowest rates.

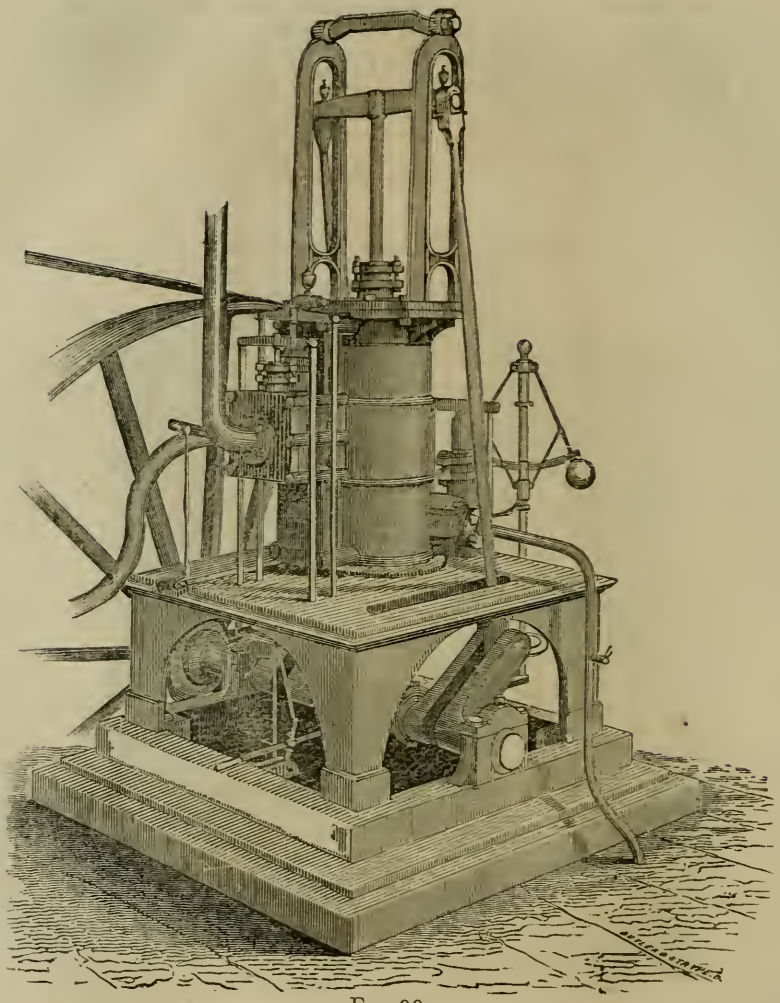


Fig. 99.

No. 99.—This engraving represents a high-pressure **Steam Engine,** admirably adapted to manufacturing purposes where room is valuable, as it occupies little space. They are of great strength and excellent workmanship. Ten-horse power, cylinder 9 inches diameter, 22 inches stroke, $1200. Five-horse power, cylinder 6 inches in diameter, 16 inches stroke, $750. Boilers for same, extra.

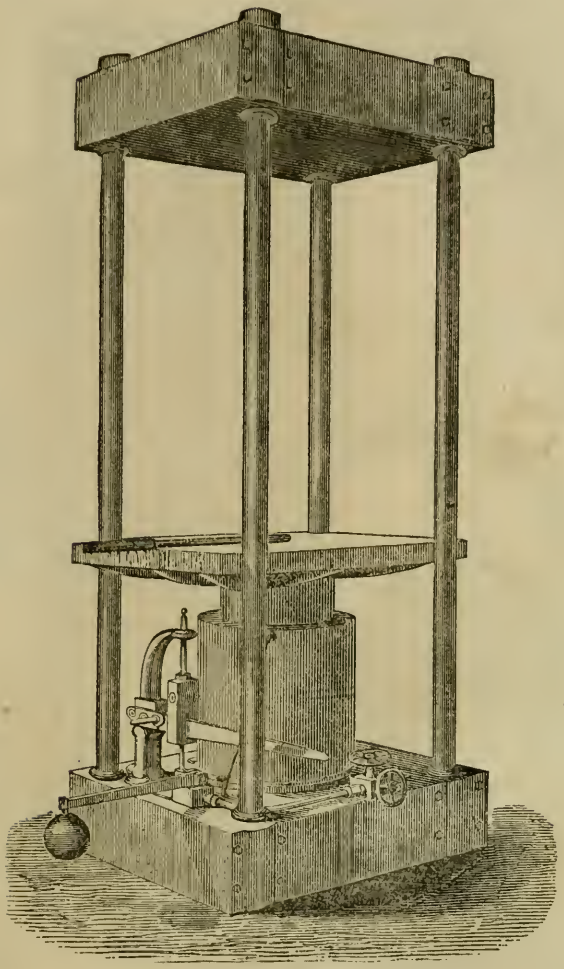
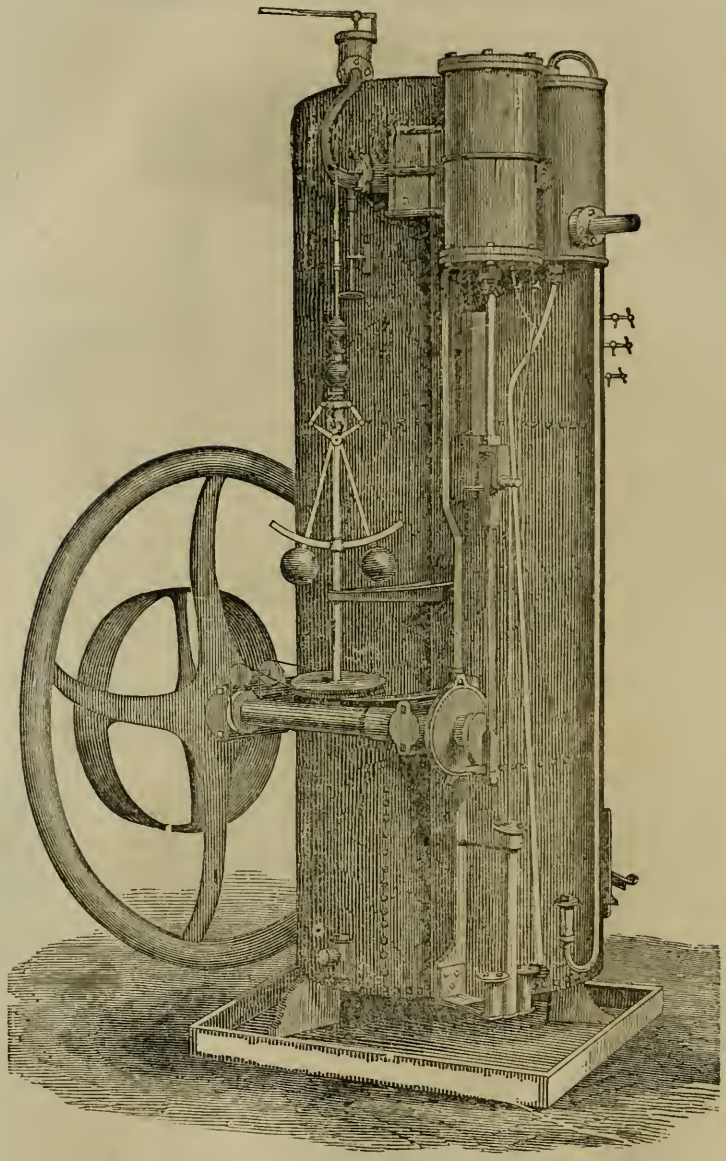


FIG. 100.

No. 100.—Hydrostatic Press.—This Press is of tremendous power and suitable to be adapted to a great variety of purpose, such as the pressing of cloths, paper, cotton; expressing oils from seeds, raising up of buildings, &c., &c. Eight-inch ram, with single pump, platen 40 by 26 inches, $800. 10 inch do., platen 44 by 28, $1,100. 12 do., 45 by 32, $1,200. The cylinders are wrough iron.



No. 101.—Portable Steam Engine and Boiler.

The foregoing cut (101) represents a vertical tubular boiler, with a steam engine attached. A cylinder containing a coil of copper pipe receives the exhaust steam; the cold water from the pump passes through this coil and becomes heated before it reaches the boiler. The whole is so constructed as not to require any extra foundation or extraneous bracing. It occupies about 4 feet square and is 8 feet high.

Cylinder 5 inches in diameter, 10 inch stroke—from 3 to 4 horse-power, $600.

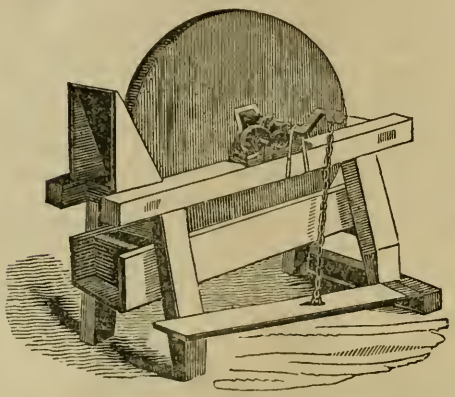


Fig. 102.

No. 102. Grind-Stones. These are hung on friction rollers and moved with a treadle; the person grinding turning the stone without assistance.

Fig. 103.

No. 103.—Blacksmith's Portable Forge and Bellows.—These are compact, of light weight. They can be used out of doors or in, as circumstances require. They suit all descriptions of work, from that of the dentist and jeweller to that of the smith.

Blacksmith's tools, of every, description, can be furnished to order.

No. 104.— Garden Seed-Sower.—This is an excellent machine, and only requires testing to become a great favorite of the agriculturalist.

Directions for Use.—There are four holes on one side of the wheel

and three holes on the other side. The threads in those holes are cut with a left-hand tap. The thread on the cams are cut with left-hand dies. These cams are to be turned in with the fingers on the left-hand, and are to raise the clapper which uncovers the seed-hole to let the seed drop. Four cams are enough to sow carrot or onion seed in the drill, because the machine is so made that the seed will drop twice at the operation of a cam. To sow beet or rutta baga seed in the hill use only two cams. If two is not enough, then take off the wheel and put the other side of the wheel to the clapper, and use three cams. Be careful never to leave any cams in the wheels except those in present use. Turn off two nuts—one on each side of the hopper. Next turn off the hopper and raise that end of the seed-slide which is next to the wheel. In order to sow carrot seed, place the carrot-seed plate in the bed over the conductor, then let the seed-slide drop down to its place, and then the hopper, and it is ready for use. Be careful never to draw the machine backwards. The seed-plate which has the largest hole is for beet seed; the next largest hole is for carrot seed; the third for onion seed; the fourth for ruta baga. Be careful never to let oil or grease touch the seed slide or plates.

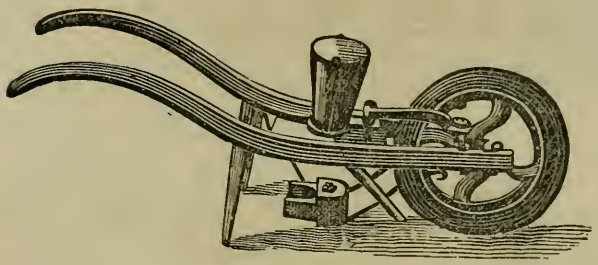


Fig. 104.

Fence Wire.—This material is fast coming into common use for fencing, possessing as it does the advantages of durability, economy and beauty. It is cheaper than any other means of inclosure now in use. We furnish different sizes to order.

Mining and Blasting Tools, for home or California use, furnished in all their varieties, at short notice.

Pruning Knives.—We have just received an assortment of these knives admirably adapted to Pruning, Budding, &c. They are of various forms and sizes.

No. 105.—Sugar-Cane Mills.—We manufacture these at our foundry in this city, of all sizes, for Hand, Horse, or Steam Power. They are made either vertical or horizontal, as ordered. The horizontal rollers

are considered the most economical, both as regards power and the saving of juice. Great improvement has recently been made in these mills within the last year.

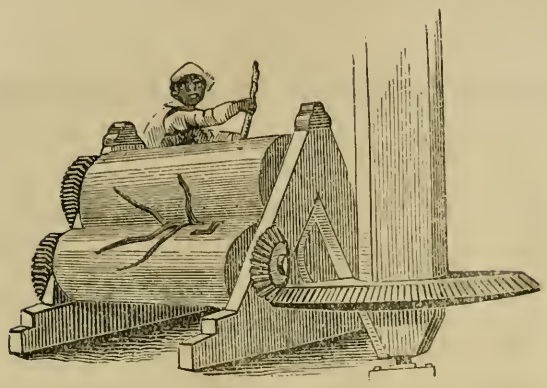


Fig. 105.

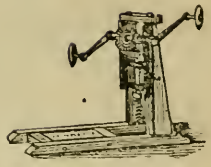


Fig. 106.

No. 106.—Improved Boring Machine.—This Machine is simple in its construction and operation; it is readily attached to the top of the timber, when the workman sits himself across it, operating the auger by turning the two cranks, one with each hand, and readily performs quadruple the amount of work, more perfectly and with much more ease, avoiding entirely the wrenching and more laborious operation of turning the Common Auger. By shipping a gear, and the same motion of the cranks, the auger is quickly drawn out, leaving the hole clear of chips. They are neatly finished, light and portable, and but 2 feet 3 inches long, and 2 feet high.

A set of 3 Augers is fitted to each Machine, comprising 1, 1½ and 2 inches, 18 qrs. Extra augers, and other sizes furnished to order.

For transportation they are packed, 6, with the augers, in a box 2½ feet square.

MAYHER & CO'S FOUNDRY & MACHINE SHOP.

Our Factory and Machine Shops are located at 550 & 552 Water-street, and 292 and 294 Cherry-street, where we are prepared to furnish Machine Castings with prompt dispatch. Machinery or Implements of any kind manufactured to order from specifications, models or drawings.

This concern has now been established twenty-five years, and our experience in the business, besides our large collection of models and patterns, which have increased during that time, gives us an advantage over all similar concerns in the United States to furnish any kind of Implements or Tools appertaining to *Agriculture at the shortest notice.*

PRICES OF UNENUMERATED ARTICLES.

Axes—Collins', Hunt's, Simmon's. Davis', etc., etc., from $1 to $1 25.
Axes, half, 50 cts. to 75 cts.
Apple Parers, 75 cts. to $2 50.
Augers, Post-hole, $4 50 to $5 50.

Beam, Scale, 50, 100, 150, 200, and 250 lbs., $2 25 per beam. For each additional hundred, 75 cts.
Bows, Ox, 25 cts. to 50 cts. per pair.
Bow-keys, Ox, 12½ cts. to 25 cts. per pair.
Brushes, Horse, 75 cts to $1 25.
Brushes, Caterpillar, 31 cts. each.

Clover Hullers, $20 to $80.
Currycombs. Cranks, various kinds, &c, &c.
Chains, Trace, 50 cts. to 75 cts. per pair.
Do. Dog. Halter, Cattle Ties, &c., &c., 25 cts. to 50 cts.
Crowbars, 8 cts. to 10 cts. per lb.
Corn Hooks, 50 cts. each.
Chains, Ox and Log, 9 cts. to 12½ cts.
Cheese Hoops, 25 cts. each.
Cattle Cards, brass and iron, 25 cts. to 50 cts.

Ditching Spades, 75 cts., to $1 25.

Engines, Plantation, $40 to $150.

Fleams, 38 cts. to 50 cts.
Flails, 63 cts. to 87 cts.

Garden Pumps, Cooper's, $5 50
Garden Syringes, $1 to $6.

Grain Measures, $1 to $2 per set.
Grind-stone Rollers, 75 cts. to 88 cts. per set.
Grape Cutters, 50 cts. to $2 50.
Garden Reels, 75 cents.
Gin gear castings, 3½ cts. to 4½ cts. per lb.
Grass Hooks, 38 cts. to 63 cts.
Grafting Saws, 63 cts. to $1 50.
Garden Lines, 25 cts.

Hatchels, $10 to $30 per set.
Hooks, Manure, 75 cts. to $1.
Hooks, Potatoe, 50 cts. to $1 50.
Hammers, 75 cts. to $1 50 per pair.
Handles—Hoe, Shovel, Fork, &c.

Knives—Hay and Straw, $1 to $1 50.
Do. Peat and Ditching, $1 to $2.
Do. Budding and Pruning, 50 cts. to $1.
Do. Cane, 50 cts. to $1 25.
Do. Farrier, 38 cts. to 50 cts.
Knobs, Ox, 12½ cts. to 25 cts.

Lime, from 4 cents to 8 cents per bushel.

Mortising Machines, $30 to $50.
Mills, Paint, $6 to $16.
Mattocks, handled, $1 25 to $1 50.
Muzzles, Ox, 38 cts. to 75 cts. per pair.

Pickaxes, 75 cts. to $1 25.
Potatoe Hooks and Forks, 50 cts. to $1 50.

Riddles, Fan, 75 cts. to $1.
Rein Snaps, 12½ to 25 cts.
Rollers, $1 50 per set.
Rat Traps, 75 cents.
Rifles, Scythe, 6 cts. to 12½ cts. each.

Saws, Circular, $5 to $25.
Do. Cross-cut, $4 to $10.
Do. Hand, &c.
Shears, Sheep and Horse, 75 cts. to $1 25.

Stones, Scythe, Quinnebaug and Indian pond, $6\frac{1}{4}$ cts. to $12\frac{1}{2}$. cts.
Sickles. 38 cts. to 75 cts.

Twigg Cutters, 50 cts. to $2.

Tallies, Garden, $2 25 to $3 50 per hundred.

Wheels, Cart and Wagon, $30 to $50.
Washing Machines, $5 to $10.
Wheel Pulleys, $1 to $1 25.
Whiffletrees, double, $3 to $3 50; single, $1 to $1 50.
Wrenches, patent, $1 50 to $2.
Do. Malleable, 50 cts.
Wheel Heads, 50 to 75 cts.

Yokes, Neck, $2 25.
Do. Ox, $1 to $1 50; ironed, $2 50 to $5.

Vanes, $10 to $25.

☞ At WHOLESALE a liberal discount will be made from the above prices.

REMARKS ON SOILS.

Stiff clay should always be kept in grass, for, owing to their adhesive ness, it is difficult to cultivate them. They will not pay for doing so at the present prices of produce and labor. Besides, if properly taken care of and occasionally manured, their average yield of grass is a good one, and it does not run out, as in most other soils. Loamy and sandy soils should be kept in a rotation of crops; and the lighter the soil the harder it may be worked in this way, provided it be well manured after each crop is taken from it, as it exhausts itself more rapidily than a loam, and above all a clayey soil. The latter is cold, inert and sluggish, and, like an unwieldy animal, cannot be roused beyond a certain production.

We are great advocates for stirring the ground deep. This is best done with a sub-soil plough, which loosens the substratum without turning it up to the surface. Subsoils are rarely as rich as surface soils; they should therefore be brought up and mixed with the surface soil no faster than they can be enriched and made equal to them. A rich surface soil may be turned up to any depth. For example, in alluvial bottoms, when a depth of six inches of soil has been cultivated till it has become somewhat exhausted, by turning up an additional inch or more it gives fresh rich earth to the cultivated surface, and is equivalent to a good manuring. Trench or deep ploughing, under such circumstances, is very beneficial.

THE GARDEN.

In garden culture greater pains should be taken than in field culture, because the products there are required to be of superior quality, and it is desirable to make the most of the land, to say nothing about the eye being gratified with its tidy appearance. It should be sheltered from cold winds, have a southern or eastern aspect, if possible, and warm, dry soil for all early vegetables. Later products may be put on a colder soil. The deeper the ground is stirred and enriched the better. One foot is the least depth that a good gardener will be satisfied with, and if he can turn up and enrich the soil to 18 inches or two feet, so much the better. Indeed, with asparagus and some other products, the latter depth is absolutely necessary to produce a good crop

GRASSES.

Blue, or June Grass makes the best lawns—growing fine and thick. The turf is firm and elastic under the foot, coupled with a velvet smoothness and softness which no other grass in the Union can produce. It should be sown at the rate of 5 to 10 lbs. per acre, in the autumn or winter at the South, and early in the spring at the North. Top-dress with plenty of lime, plaster, and ashes.

Red Clover.—This is one of the most important crops in United the States. It grows readily on almost any soil, from Maine to Texas, and under proper treatment almost anywhere yields profitable returns. By large numbers of farmers it is used extensively as a fertilizer in their rotation for wheat, and for this purpose nothing can be better. It also affords one of the most profitable crops of hay. It does well when sown with orchard grass, as the two ripen about the same time. All soils are suited to it, if dry and fertile. It should be cut when the bulk of the blossoms are turning brown, and, after lying in the swath until wilted, turned over without spreading, raked and cocked the same day, and when sufficiently cured in the cock, put in store with the addition of a few quarts of salt to every load. From 8 to 16 lbs. of good seed is required for an acre, more being necessary on stiff or old soils than on new and lighter ones.

White Clover.—This is a valuable herbage for pastures, but does not grow to a sufficient size for profitable hay, except for sheep stock. Sow from 4 to 8 lbs. per acre.

Lucerne.—This is cultivated to considerable extent in the neighborhood of cities. It requires a very deep, rich loam, as it sends down its long tap roots to the depth of two to five feet. It must be kept clear of weeds the first year, after which it completely covers the ground. It may be cut several times in the season, and yields a large quantity of fodder, somewhat inferior in its nutritive qualities to the red clover.—Plaster, or bones, in considerable quantities, ground and scattered broadcast, and other manures, are essential to its continued productiveness on the same land. It requires ten to fifteen pounds of seed to the acre, broadcast, or in drills at the rate of fifteen pounds.

Orchard Grass.—It comes forward earlier than any other grass in the spring, and produces most abundant crops, in quick succession, yielding several large cuttings of excellent hay in one season, and furnishing a great quantity of nutritive pasturage. It requires a dry and good soil, and should be cut before it ripens, or closely fed, to secure its full value. Sow at the rate of one and a half to two bushels per acre; for if the seed be not sown thick it will come up in tufts. It is more important that this grass covers the land well than any that we know.

Timothy, Herd's Grass, Foxtail, Meadow Cat's Tail.—By all these names this grass is known. It is the king of grasses for hay in the Northern parts of the United States and the Canadas. Good clays or loamy land are best suited for it.

GRAIN.

Barley.—Grows well on a light, rich soil, but is probably more tenacious of clay.

Buckwheat.—This crop is generally cultivated on light land. It is sown either broadcast or in drills, at the rate of one bushels per acre in the former, and two or three pecks if in the latter.

Millet.—This requires a dry, light soil, but a heavy crop can only be realized on a rich one. It may be sown in drills or broadcast. It will produce from 1½ to 4 tons of fodder per acre—equal in value to grass—and from 20 to 60 bushels of grain, equal to corn for many kinds of feeding. Sow from 16 to 24 quarts per acre. When the ground is in proper condition, and the season favorable, the former quantity in drills and 16 quarts broadcast will insure a full crop.

Oats.—These do best on a very strong soil, and clayey loams are well adapted for them. The Imperial and the Bedford oats are considered the best. Sow from 3 to 4 bushels per acre.

Rye.—This grain is never advantageously raised unless upon dry, light soils. Sow from 5 to 6 pecks per acre.

Wheat.—Before sowing the wheat should be thoroughly cleansed, and every particle of foreign seed removed. Then wash it three successive times in the strongest brine, mix with a coating of slaked lime, and spread out to dry. If spread out in the sun it will dry in two or three hours. This preparation secures the crop against smut, and promotes the growth. The quantity of seed found most judicious, as a general rule, for sowing, is 5 to 6 pecks per acre. On the heaviest clay soil 2 bushels per acre is none too much—the same causes requiring variation as in barley and other grain. Some kinds of seed tiller better than others, which of course should vary the quantity sown. The best kind of wheat is the improved Flint Wheat.

Indian Corn.—The soil must be light, dry and rich to produce a good crop. It is always best to soak the seed before planting, in a strong solution of saltpeter. This gives an early vigorous growth.

FERTILIZERS.

We shall merely treat of such Fertilizers as are usually kept on sale.

Ashes.—These may be used, leached or unleached, with good effect, at all seasons, and on all kinds of soil—though they best suit land of a light sandy or gravely nature.

Bone Dust.—This substance, also, may be applied precisely like ashes, except not in such large quantities. Its effects on Indian corn is not as good as ashes. It best suits grass, wheat and turnips. Sawings of bone are fifty per cent more powerful.

Charcoal Dust.—This, also, may be applied like ashes, and in any quantity, from ten to two hundred bushels per acre.

Guano.—*Caution in Application.*—Be very careful to place the Guano so that it will not touch the embryo, or young roots, or stalks of corn, potatoes, cabbages, tobacco, sugar cane, cotton, or any plant that has but one stem from its root, for it is of such a burning nature that if a portion no larger than a small pea comes in contact with the plant before being watered or rained on, or undergoing partial decomposition, it instantly kills it. With grass and small grains this caution is not important, as other shoots from the roots will immediately supply the place of those killed.

Preparation.—Before using guano pass it through a fine sieve—and all lumps remaining break up and pass through the sieve. Now take at least four times its bulk of sand, or dry sandy or light loamy soil, and pass this through a coarser sieve, if you have one, and mix it in layers with the guano. Let this compost lie a few days—several weeks would be better—then toss it over and beat up well together, and it will be fit for use.

Quantity applied per acre.—This depends upon the kind of soil and its condition, and the kind of crop to be grown. From 250 lbs. to 400 lbs. of guano per acre is the safest quantity to apply. It acts quickest in a light sandy soil or loam, and is excellent to start crops on cold moist land. It hastens the ripening of crops on all kinds of soil.

Guano should be spread broadcast upon grass lands, early in the spring and directly after mowing. On grain, early in the spring, or in autumn, directly after being sown. When applied to corn, either pure or in compost, a table spoonful or so may be put into each hill, and a little dirt thrown over, and then drop the seed—or it may be hoed in round the corn the first hoeing. Apply it in the same way to peas, beans, potatoes, and other root crops, melons, &c.

Lime.—This may be applied at any season, at the rate of twenty to two hundred bushels per acre; but we would prefer moderate doses of

not over fifty bushels, and put it on the oftener. Like charcoal, it does best kept near the surface, and in other respects may be applied like it.

Plaster of Paris.—Sow this broadcast upon grass or grain, early in the spring, at the rate of two or three bushels per acre. It requires to be sown early, so as to have the benefit of moisture and to ensure its decomposition. It best suits clover, and is very good for potatoes and turnips.

Poudrette.—This is an excellent manure to start corn and other products, and give them a quick growth, but its effects are not lasting.

FRUIT TREES.

For the directions on transplanting and pruning, we are chiefly indebted to catalogues of experienced nurserymen, from which we have copied, with slight alterations.

Transplanting.—It is frequently the case that a tree which has received all the care and attention which can be bestowed upon it by the most experienced nurseryman, is transplanted to a soil of very inferior character, and being thus stunted in its growth is the cause of dissatisfaction to the purchasers. The planter should therefore bear in mind that, with the exception of very fertile alluvial bottoms, like those of the Mississippi, &c., it is difficult for the soil in which a tree is planted to be too rich, and that the rapidity of its growth, and its subsequent productiveness, are very much influenced by the proportion of fertilizing matter contained in the soil.

Before planting an orchard the ground should be thoroughly subsoiled or trench-ploughed to the depth of eighteen inches or two feet. This is always done in Europe, but scarcely ever thought of in the United States: and yet we consider it the first and most important operation in the preparation of ground for an orchard—unless it be so rocky as to render this impossible.

After the trees are set out the ground should be well ventilated; and if a poor soil, as highly manured as the means of the cultivator will admit. It is impossible for a tree to flourish as it should when the roots are surrounded and covered with a thick sod. When the tree is isolated, as in a garden or lawn, a rich compost of earth and manure should be dug in around it, care being taken that no pure manure be allowed to come immediately in contact with the roots. The ground about these, also, for the space of two or three feet, should be kept mellow until the tree is of large size: and it would also be well to dig in a portion of manure about the roots every spring.

Soils Proper for Different Kinds of Fruits.

The Apple.—This will succeed on almost any soil not too wet: a rich gravelly loam will, however, ensure the finest trees and fruit. Before planting the ground should be well cultivated and mellowed, with corn or potatoes, and enriched, if necessary, with a good quantity of manure. After the trees are planted the orchard should be kept in cultivation for some years—and even after the trees have become large and are in full bearing the ground should not be kept in grass more than three or four years consecutively.

The Cherry.—This does best in dry, rich soil, but bears abundantly in stiff clays, when well drained.

The Pear.—This succeeds best in a rich clayey loam, with a gravelly subsoil, but will grow and bear fruit on even a poor soil, provided it is not too wet. A heavy clay soil should always be avoided, unless it be well drained, as it is known to be very retentive of moisture, and is frequently so highly saturated as greatly to injure if not kill the tree.

The Plum.—A well drained clayey soil or a rich loam best suits the plum.

The Peach.—A sandy or light gravelly soil, not over rich, is decidedly the best for the peach, though it will flourish very well in a warm climate in rolling clayey soils, where no surface water could remain to their injury.

Pruning and Training.—All trees require more or less pruning. With young trees the knife is required to form a symmetrical head, to induce a luxuriance of growth, and to cause early fruit-bearing. Bearing trees in orchards also require frequent pruning, to relieve the tree of all branches which are weak, and which crowd upon others, or uselessly consume the nourishment afforded to the root. It is also frequently required to check to great luxuriance of growth, which often induces disease and seriously affects the longevity of the tree. Care and judgment, however, are necessary, and there may be often danger of too much pruning. When a tree is healthy, produces well, is not too much crowded in its branches, and free from suckers on its boughs, it will in general require very little pruning. No suckers should be allowed to grow from the root, as they divert a material portion of the sap from the branches.—There is much question respecting the proper season for pruning, but experience is very decided that the early part of summer is best; the sap being then in full operation the wounded part heals quickly over, while in winter the branch to which the knife has been applied will be frequently found dead several inches below the wound.

ORDERS.

It is very desirable that orders should be sent very early in the season, that we may have as much notice as possible, and send the trees to their destination at an early period after the opening of the season of transplanting. For want of care on this head many orders arrive when it is no longer safe to take up trees, and are necessarily left over until the next season. We would urge upon the attention of Southern and Western purchasers the great importance of sending their orders as early as August or September. In the spring vegetation is far advanced at the South and West before the frost will allow the trees to be taken up at the East; and if sent at that season they frequently vegetate on the passage, and cause great loss to the purchasers. In the fall no difficulty of this kind will occur, and trees are annually sent to the far western States at that season with entire success. The utmost care is taken to label distinctly, according to the invoice sent, every variety of tree or plant ordered. They are packed in matted bundles or boxes, according to the the distance and probable exposure, for which a reasonable charge will be made.

WHEN TO PLANT GARDEN SEEDS.

Artichoke.—Sow the seeds in the last of March, in seed beds, and transplant into a rich soil; slightly protect in winter. In the following spring separate the offsets, and plant three or four in hills two feet distant, in rows four feet apart.

After separating the seed-crown, called the bristles, or chokes, the flower-heads are boiled or pickled. Boil them near two hours, or until tender, in water with a little salt. Sometimes they are fried and used as ragouts; or when very young as salad.

Asparagus.—Sow in April, in drills abont one inch deep, and in rows about eighteen inches apart. The soil should be light, deep, and well manured. Transplant with care when one, two, or three years old into deep manured trenches, which must be filled up as the plants grow. Two or three inches of horse manure should be laid on the bed every fall, and carefully forked in in the spring. Some allow the plants to remain as sown, and put layers of manure on every year.

Beans.—*English Dwarf Beans* should be planted very early; as soon as the ground is workable. If delayed till late the crop is generally overtaken by a scorching heat, and is fast destroyed. A good stiff loam is best adapted to their growth. When about two inches high hoe them,

and draw the earth around their stems two or three times during their growth. When the pods begin to grow, break off the tops of the stems; this will cause them to swell and fill up, and prevent their running all to flowers.

Kidney Dwarfs should be planted as soon as the danger of frost is over, in light rich soil, three or four in a hill, or in drills two or three feet apart. Let them be carefully hoed, drawing the earth around the stems very lightly each time. Other kinds may be planted from last of March at intervals until August.

Pole Beans are generally planted in hills about two feet apart, putting four or five beans in a hill, and leaving a space in the center for the pole. They should not be planted till all danger from frost is past, and the Lima and Sieva not until the last of April, as they will not grow until the the weather and ground are warm. The best quality is the Lima, but it is late. The Sieva, or Carolina is much like, it and earlier. The London Horticultural is a great bearer—early and good. Lima beans may be forwarded in pots, and transplanted with perfect success.

Beets.—Sow from first of April to middle of June, in deep rich sandy loam. Thin the young plants to a distance of six or eight inches, and fill up the vacant places with those taken out. The Early Turnip-rooted are the earliest, and are of fine quality. When young the leaves make excellent greens. The Long Blood Beet is best for table or winter use. The French sugar beet and mangel wurtzel are most valuable for cattle, and are much cultivated. Thirty or forty tons are raised on an acre, for which it takes about four pounds of seed.

Borecole, or Kale.—Sow in April or May, and manage as cabbages. In winter transplant into trenches and cover with straw. The crown or center, improved by frost, is delicate and sweet when boiled.

Brussels Sprouts.—Sow the seeds early in May, and stransplant about the first of July. The general treatment should be about the same as that of broccoli and cabbage. The plants, when protected in winter, send out young sprouts in the spring, which make excellent greens. There is no finer spring vegetable.

Brocoli.—Sow in hot-beds in March, or for general sowing in the open ground, in April or May, in good rich, and light soil. Thin out the plants, to prevent their being drawn up weakly. Those that do not produce heads in October and November should be taken up and placed in the cellar, and covered up to the leaves with earth.

Cabbage.—Cabbage seed for a very early crop should be sown in a hot-bed in March. Give plenty of air, and thin out the plants, that they may grow.

When the plants are four or five inches high, they should be transplanted, if the weather is mild, into the open ground, in rows, two feet

apart, and about fifteen inches apart in the row; make the ground rich and light, and set them firmly. As they grow give frequent hoeings, and keep clear of weeds. Those who have no hot-beds should sow in the open ground early in May, which will be soon enough for a general crop. The best varieties need not be sown until the middle of May. Sow in drills or broadcast, in beds properly prepared, and thin out as soon as they are an inch high. Transplant them in June, in rows two feet apart.

Those who may wish to preserve their cabbages through the winter should take them up in dry weather, and plant them down to the leaves, close together, in a dry, sheltered spot. The whole must be covered securely with straw and boards, to keep off the rain.

Cardoon.—The stems of the leaves, after being blanched like celery, are the parts made use of for salads, soups, &c. They are in perfection in autumn and winter. The seed must be sown in April or early in May, in a bed of rich earth, and transplanted in June, in rows, four feet apart. They should be earthed up in the same manner as celery, taking care to keep the leaves close together, by tying round each a piece of bass matting. On approach of winter take them up, and bury them in the cellar for winter use.

Carrots.—Sow for early crop about the first of April, and for main crop about the middle of May, in rich loamy soil, manured the previous year, in drills about one inch deep, and two inches apart. The plant should be thinned out to the distance of three or four inches.

The Early Horn is best for very early use; but for the principal crop, the Long Orange and Large White are best. They are considered very valuable for horses and cattle. From eight hundred to a thousand bushels may be raised in an acre. About two pounds of seed should be used to the acre. If the weather is dry it is best to soak the seed before sowing, and mix it with dry plaster or ashes.

Cauliflower.—For an early crop sow in September, and preserve them from all frost in sashes or otherwise, and keep them in a healthy state. The following spring transplant into rich loamy soil. Hoe and water them well. As the flower-heads appear, break the large leaves down over them, or tie them gently over the head, to close and blanch them. For a late crop sow in the latter part of April, and manage as broccoli.

Celery.—Sow in February and March, in hot-beds. Set the young plants in beds during April, about four inches apart, where they may remain a few weeks, when they should be carefully removed, with the balls of earth attached to the roots, to the trenches. Let the trenches be dug a foot or more deep, and put in six inches of well-rotted manure; then fill the trench nearly to the top with the soil that was thrown out, and with a fork mix it well with the manure. A moist situation is the best. The plants should be set about six inches apart in the row, and as they pro-

ceed in growth, earth them up once a week, a little at each time, carefully observing not to cover the heart of the plant. For winter use sow the seed in April, or early in May, in a bed of fine rich soil, made smooth and even; sow tolerably thick, and beat the surface of the bed firmly with the spade, then cover with fine earth, sifted on, about a quarter of an inch deep. If dry weather ensues give a good watering, and the seed will come up well.

Chevril.—Sow in rows, ten or twelve inches apart, and cultivate the same as parsley. It is recommended as a fine salad, and possesses an aromatic flavor. It is also used in soups, &c.

Coleworts.—A species of cabbage, and cultivated in the same manner. They are used as greens, like cabbage sprouts, which they so much resemble that they are seldom cultivated.

Cucumbers.—For an early crop, sow as soon as the weather becomes warm, in hills about four feet apart. Put a large shovelfull of well-rotted manure in each hill. Sow liberally, as the yellow bug will require a part, and it is best to have a surplus of plants. The early frame and green clusters are best for early use. Sow for pickling from the middle of June to the middle of July. The long prickly and small green are the best for pickles.

Curled Cress, or Peppergrass.—Sow the seed thick, in drills, from April to September. They must be cut while young and tender. They are considered excellent when eaten with lettuce.

Corn Salad, or Fetticus.—This is also cultivated as a salad for winter or spring use. Sow the seeds in clean rich ground, in August and September, add cover in winter with straw.

Egg Plant.—The seeds should be sown in hot-bed in March, and transplanted into the open ground in May, as soon as the ground becomes warm. The purple variety is best for eating. It should be sliced and fried with ham; or it be may parboiled, drained, and fried in a batter of flour and eggs, or in fresh butter with finely grated bread, previously seasoned with spice and herbs.

The white variety is used for ornament. It makes a beautiful appearance when the plant is filled with fruit.

Endive.—Sow in rich soil, at intervals, from April to July, in drills fifteen inches apart, and the plant eight inches apart in the rows. Hoe them frequently. Tie up the leaves when fully grown to blanch the heads. They are used as a salad. The green curled are the best.

Indian Corn.—Plant about the last of April, in good soil. For very early use, plant the early white Jefferson. The Tuscarora comes in next, and is a very good variety. It remains a long time in the milky state.

For table use, to be eaten in the green state, no variety will compare with the sweet or sugar corn. Corn needs frequent and deep hoeing, drawing up the earth a little each time.

Kale.—Plant in hills two feet apart. It is forced into growth in the spring, blanched, and used as asparagus.

Leeks.—Sow in April, on a well-prepared piece of ground, and transplant in June into rows fifteen inches apart, and four or six inches from each other in the rows. Hoe up the earth about the stems as they continue to grow, so as to blanch them and make them tender. Cutting off the tops of the leaves three or four different times in the course of the season is beneficial, as it makes them throw out new heart leaves. The London and Scotch are the two best varieties. The soil should be rich but not fresh manured.

Lettuce.—Sow in February and March in hot beds, or in the open ground in April, in good rich mellow ground. When the plants have five or six leaves, transplant them into rows a foot apart each way. Hoe frequently, and in dry weather water plentifully. The finest of salads with vinegar and sugar.

Melon.—Plant in hills of light soil, in the latter end of April.

Muskmelon.—Plant in hills four to six feet apart. Prepare the hills by putting in a shovelfull of well-rotted manure at the bottom. Plant a dozen seeds in the hill, to allow for the depredations of the bugs. But eventually let but two or three good plants remain. The green flushed varieties are superior to the yellow. They should be planted a good distance from squashes, pumpkins, &c., as they are liable to mix.

Mustard.—The white, or English mustard is cultivated as a salad. The leaves are used like cress, when very young. Sow in drills, at different times, from April to June.

Nasturtium.—This is deserving of cultivation on account of its beautiful orange-colored flowers, and its excellence in salads. The grain, berries or seed of this plant, which it produces abundantly, makes an excellent pickle; in the opinion of many, preferable to capers. It is sown in drills in April, nearly an inch deep. When about six inches high it should have sticks placed to climb upon; or they may be planted by the side of fences, palings, &c.

Okra.—Sow in April on good rich ground, and in rows two feet apart. Thin out the plants to the distance of eight or ten inches apart from each other. Hoe them frequently, and draw the earth up round the stems, as they advance in growth, to five or six inches. The green pods are used in soups, &c., and the ripe seeds are sometimes burnt and used as a substitute for coffee.

Onions.—The onion is one of the best products of the garden. The soil best adapted to their growth should be light, and well enriched with very old stable manure or compost. Dig the beds carefully with the spade, and make the surface fine and even with a good iron rake. The seed should be sown as soon as the ground can be got into good condition. Make the drills one foot apart, and cover the seeds about an inch; finish by pressing the earth well upon the seed with a board laid lengthwise on the row and walking across. Thin out the plants to an inch or two apart, and keep them clear from weeds. The white onions is the best for early use, or for pickling; the yellow or silver skin for a main crop; and the large red will keep the longest.

For early use in spring the white is generally sown in August, and the beds covered with straw or litter in winter.

The potato onion is preferred by some persons. It grows large, and the flavor is very mild. They should be planted as soon as the frost is out of the ground, in rows a foot apart. The onions should be barely covered. As they grow draw the earth over them with a hoe. They will be ripe enough to dig in the latter part of August.

Parsley.—Sow from March to August, in drills one inch deep and eight to twelve inches apart. It is used in soups, stews, and gravies for meats.

Parsnips.—Sow thick early in April, in rows twelve inches apart and one inch deep, in a deep soil, well manured the previous fall, or with fine dung early in March. When the plants are two or three inches high thin them out to the distance of about two inches. Parsnips will endure the hardest frost, and may safely be left in the ground through the winter. They should, however, be dug early the following spring, before they begin to grow.

Pumpkins.—This is a valuable field crop for fall and early winter feeding, for cattle, sheep, and swine. It is usually planted among corn and potatoes, which is a good practice. But it may be advantageously grown by itself, on a rich, dry, well-pulverized soil, planting in hills, at a distance of six or seven feet apart each way. The large yellow pumpkin is the best. Plant in May, in hills about five or six feet apart, in rich, well-manured, loamy soil. Put six or seven seed in each hill, leaving but three or four—the most thrifty ones—to grow.

Peas.—Plant the early varieties as soon as the ground can be prepared in the spring. The others in succession from April till June. Plant in double or single rows, in drills about four feet apart and three inches deep. To have a succession and to prolong the season of them, several kinds should be sown. Hill's extra early, and cedo nulli are the two earliest kinds, and should be planted first. The early Washington, early Warwick, dwarf marrowfat, and dwarf blue Imperial, may be planted at the same time and will come into bearing in succession.

Peppers.—Plant in hot-beds in March, and transplant into the open ground the latter part of May, in rows, about twenty inches apart, and eight inches in the row. Repeated hoeings promote their growth. They are excellent for pickles.

Radishes.—Sow at intervals from March to August, in light sandy soil. Radishes are not likely to grow well in land which has been long cultivated, as they are apt to be hard and wormy, which is owing to their slow growth. They succeed best in new land, which is free from insects. The scarlet short-top and long salmon are the best kind for early planting. When the weather becomes hot the turnip-rooted sorts succeed best.

Rhubarb.—Sow the seed early in the spring or in September, in rich deep soil and warm situation. If sown in beds they may be transplanted the next season into rows. The stalks are used very early in the spring for pies.

Salsify, or Vegetable Oyster.—Sow early in March, the same as parsnips. The roots are taken up in the fall and preserved in the sand, or remain in the ground and are dug up in the spring. The roots are boiled like parsnips, or cut up in thin slices and boiled in water, mashed, thickened with flour, and fried with salt, pork or butter.

Scorzonera.—Sow in April or May, and manage like salsify, which it greatly resembles in its quality and use.

Spinach.—Sow the round-leaf, or summer variety early in April for summer use, and the winter, or prickly, in August and September for winter and spring use. When cold weather sets in it should be covered with straw, to protect it from the sun, and prevent freezing and thawing. It is excellent for greens.

Squash.—Plant in April, in hills about six feet apart, and the soil well enriched with a good quantity of rotten manure or compost to each hill. Sow a sufficiency of seed to allow for loss by insects. Three or four plants are enough to leave for each hill. The early scollop, or bush squash is an excellent variety for summer use. Canada, winter crook-neck, and autumnal marrow, are considered best for winter use. The marrow must be planted at a distance from every other variety, as they are liable to mix.

Sea Kale.—But little cultivated, though a most excellent vegetable. It is a perennial plant, and the young shoots which rise in the spring are the parts eaten. These are generally blanched by covering them with a large garden pot or box, or making a hill of earth over the crowns of the roots. When cooked it is served up like asparagus. The cultivation is simple. Select a good piece of ground, and let it be dug very deep, say eighteen inches. Sow in April. The plants may be raised from the

seeds, or from offsets from the roots. The rows should be two feet apart, and the plants about a foot apart in the rows. If seeds are sown it will be best to drop five or six into each place, to guard against accidents. The seeds vegetate very slow—if dry weather come, water the beds frequently. In November cover the beds closely with a good thick coat of strawey manure, to protect the crowns of the roots from injury by frost.

Tomatoes.—Sow in hot-beds in March, or in the open ground in April. Transplant to about three feet apart. Place sticks or trellises for them to run upon, or set them near a fence and tie them up to it. They are a very wholesome vegetable, and, when properly cooked, are considered a great luxury.

Turnips.—Turnips may be sown at all seasons, from April to August, although those will be the best which are sown very early in spring; and those which are sown early in August, for fall and winter crop. The best kinds for early use are the early white Dutch, and early garden-stone. The white flat yellow-stone and yellow Arberdeen are excellent sorts for winter use. The value of ruta baga for feeding cattle, etc., in winter, is too well known to need urging here. One thousand bushels can be grown, with good management, on an acre, and it is considered an extremely profitable crop for farmers. The seed should be sown from the first to the middle of June, as they require a longer time to grow than other turnips. Sow in drills on land ploughed deep and harrowed: thin them to the distance of twelve inches from each other, and give them one or two good hoeings afterwards. One pound of seed will sow an acre.

Sweet Herbs.—The seeds of marjoram and thyme are very small, and unless carefully sown will frequently fail to come up well. The soil should be made fine and raked level. Sow in shallow drills, twelve inches apart—lightly cover with fine earth, and press it down well upon the seed. Throw over the bed a bass mat or a little straw—just enough to cover the surface and prevent the sun from drying up the soil. As soon as the plants are perceived remove the mats or straw, and if the weather is dry water frequently. Lavender, basil, and the other varieties of sweet herbs may be sown in beds by themselves, and should be frequently hoed, and kept clear of weeds. Those which are biennials or perennials can be protected through the winter by covering them with straw-manure or litter.

Potatoe.—This root is the product of almost every soil, although a dry rich one is best suited for them. A sod, turned over the preceding autumn, so as to become well rotted in the spring after the grass has well started, is perhaps the best suited to give a fair yield, and at the same time a fine, healthy, well-matured return. They may be planted

in hills or drills, according to the judgment of the cultivator. Whole potatoes of a medium size are better for planting than small or large cut one. They should be well hilled up in hoeing. The hills may be about three or three and a half feet apart; or if in drills, they may be three and a half feet asunder, and the potatoes placed about ten inches apart. There are a variety of choice potatoes which are at times popular in different parts of the country, and which, from the introduction of new and favorite varieties, or the older ones becoming poor bearers, or from other causes, fall into disuse. Among the best of the present time may be mentioned the kidney, the pink eye, the Carter, the Mercer, &c. It requires from twelve to twenty bushels of seed, for planting, per acre.

APPENDIX.

NO. 107.—WELL WHEEL.

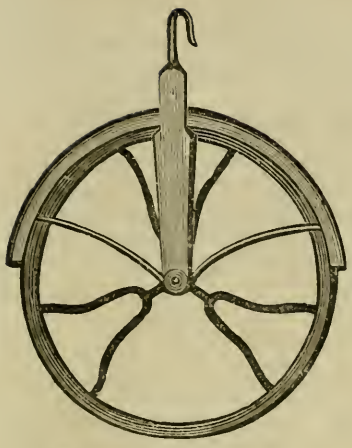


Fig. 107.

This is a cheap and simple contrivance for raising water from wells, as also for raising light weights in warehouses, etc., where more cumbrous machinery would be inadmissible. It works with much celerity and ease.

NO. 108.—CREAM-GUAGE.

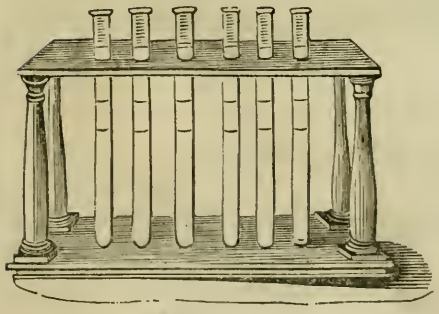


Fig. 108.

The Lacometer, or Cream Guage, is a very simple and useful contrivance for measuring the quantity of cream contained in a given quantity of milk.

NO. 109.—FOLDING LADDER.

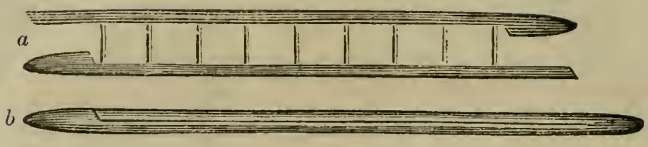


Fig. 109.

These ladders are highly praised, wherever used, for their compactness and the ease with which they can be transported. When closed, they form a pole (see *b*), and when open, they form the ladder, (see *a*). The rongs are attached to the side-pieces by means of pivots, and fall into cavities in the sides when the ladder is closed.

NO. 110.—FRUIT PICKER.

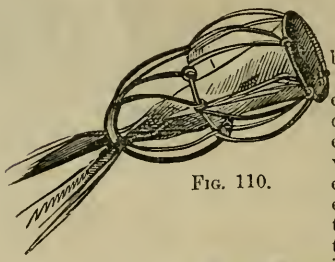


Fig. 110.

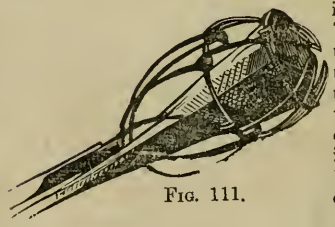
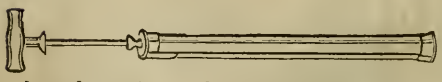


Fig. 111.

This cut represents the latest, and probably best kind of fruit picker in use.

It is formed of a strong wire frame, so constructed that when a kind of hoop is drawn from the top, the sides of the frame close, the bottom being open, and the whole firmly attached to a handle. A cloth tube, of sufficient length and size to convey the fruit to the ground, is inserted through the bottom of this frame and up to the hoop, which is made fast, thus forming a kind of bag with the mouth open. The operator simply reaches the mouth to the fruit, when, by pulling slightly upon the cloth tube, the hoop is drawn down the wire frame, closing it over the fruit, when it is detached and comes safely down the tube. Fig. 110 represents the instrument with the mouth open. Fig. 111 shows the same with the mouth closed by pulling on the cloth tube.

NO. 112.—GARDEN SYRINGES,



Of various sizes and of various materials, as brass, block tin, &c. For watering the leaves and branches of trees, shrubs and greenhouse plants, or for destroying noxious insects by using various liquids, they are found very useful, and are extensively used in flower gardens and nurseries.

NO. 113.—FIELD HOES.

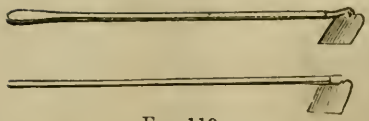


Fig. 113.

Among the assortment is a great variety of hoes of all kinds, as field, garden, carrot, &c. &c., with and without handles. The best are cast-steel, with shank and hoe forged solid, or from one piece. They possess great strength, and are light and durable.

NO. 114.—HORSE POWER.

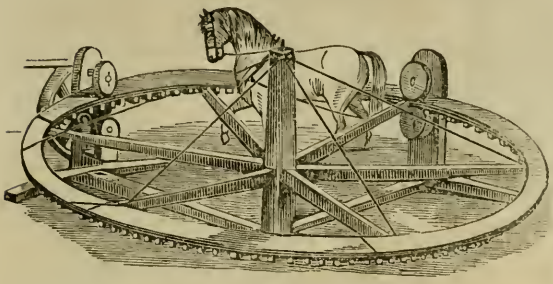


Fig. 114.

This power is formed by iron segments bolted upon a wooden rim, and gearing into a box wheel, to which is attached a shaft and pulley — from which motion is imparted to machinery by means of a belt. From one to six horses can be used to give motion. They travel round inside the rim.

NO. 115.—WIRE FENCES.

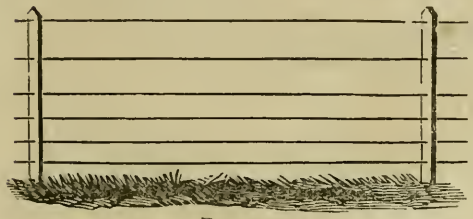


Fig. 115.

The annexed cut represents an economical, durable, and tasteful fence now coming into general use. It occupies little room, and can be afforded at less cost than any of the unsightly zig-zag fences, or stone walls, with which our farmers have hitherto disfigured their grounds. This wire is made of different sizes.

NO. 116.—GARDEN ROLLER.

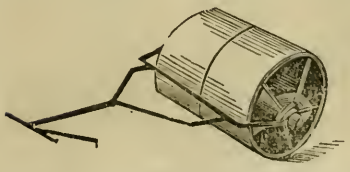
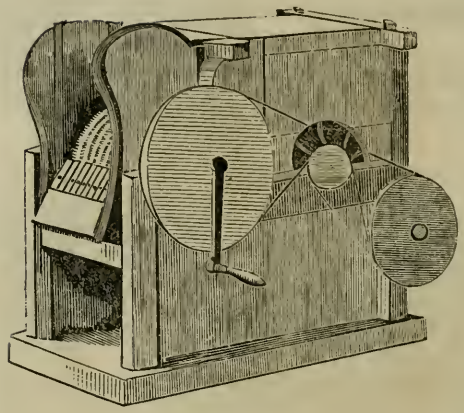


Fig. 116.

These rollers are formed of two cast-iron sections with a shaft within them, (from which additional weights can be suspended,) and a wrought-iron handle. The use of two cylinders in their formation is to obviate the scraping up of the dirt in turning, which is so often the case in using those formed in one cylinder—as the two move in opposite directions in turning.

NO. 117.—HAND COTTON GIN.



These Gins do their work fully as well as the power Gin. They are worked by hand, and are generally made with from sixteen to twenty saws. They are admirably fitted for transportation.

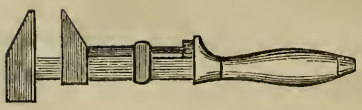
FIG. 117.

NO. 118.—FLORIST'S RAKE.

These are manufactured from the best of cast-steel, and are an almost indispensable article in the floral department of Agriculture.

FIG. 118.

NO. 119.—SCREW WRENCH.



Of this useful article we keep a large assortment, with all the latest improvements. They are manufactured from the very best material, and are unequalled for durability and beauty of finish.

FIG. 119.

NO. 120.—PRUNING SAWS.

We have these of various shapes. The annexed cut represents the one in common use.

FIG. 120.

NO. 121.—FORCE PUMPS.

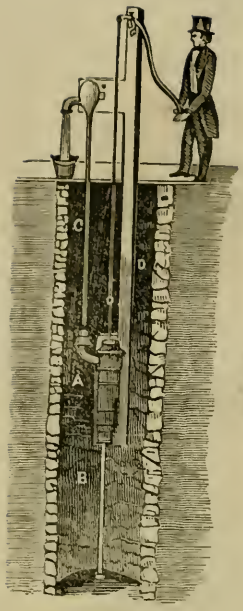


Fig. 121.

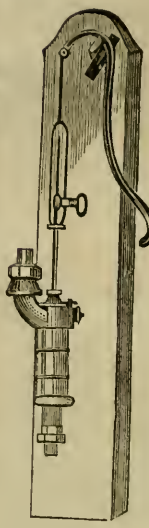


Fig. 122.

It is a well-known fact in science, that water can be raised by suction but thirty-two or thirty-three feet. To overcome this difficulty, and raise water to any required height at a cheap rate, the lifting or force pump has been so simplified as to be afforded as low as the ordinary suction-pump. Fig. 121 of the annexed cut represents the pump placed in the well as a suction pump, within thirty-two feet of the water, with its air-chamber and forcing pipe attached, and the lifting-rod lengthened, connecting the handle and piston. Fig. 122 represents the pump in a compact shape, as sold from the manufactory.

NO. 123.—GARDEN HOES.

Fig. 123.

Fig. 124.

Fig. 125.

Fig. 126.

Fig. 127.

Fig. 128.

These hoes are very serviceable in the various departments of Horticulture.

NO. 129.—PROGRESSIVE POWER PRESS.

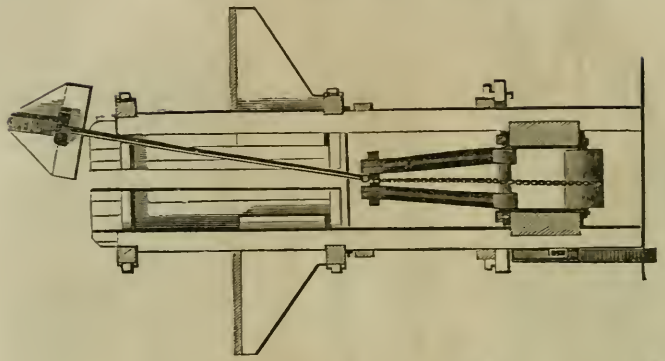


Fig. 2.

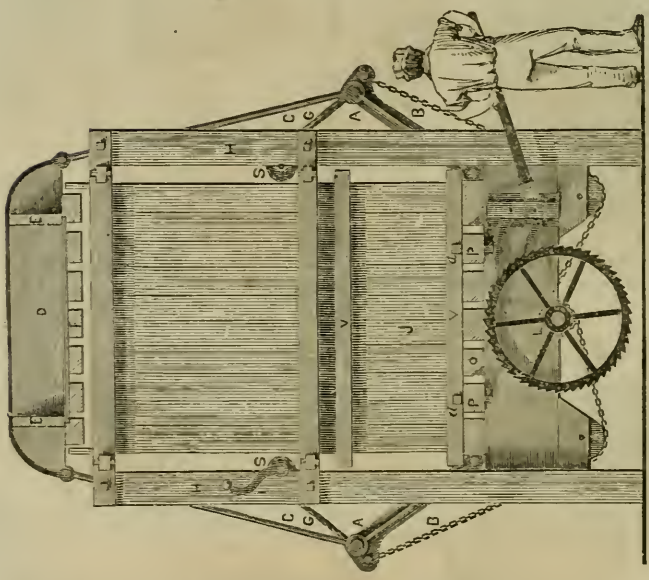


Fig. 1.

Fig. 1 is a side view of the Progressive Power Press in operation.

Fig 2 is an end view, with the follower up, and pushed aside, and the box ready for filling. These presses are a most convenient power for baling dry goods, paper, cotton, flax, hemp, rags, hay, wool, &c. &c., and are coming into general use for these purposes.

NO. 130.—CORN-SHELLER.

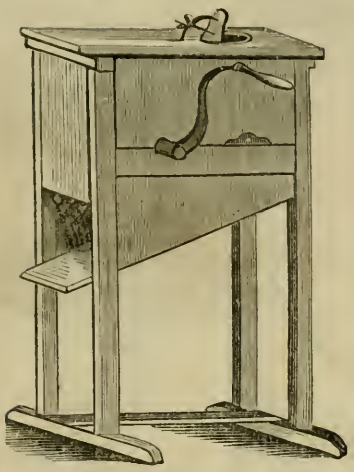
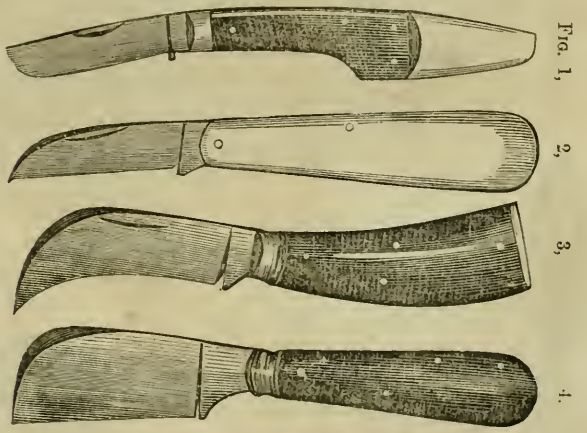


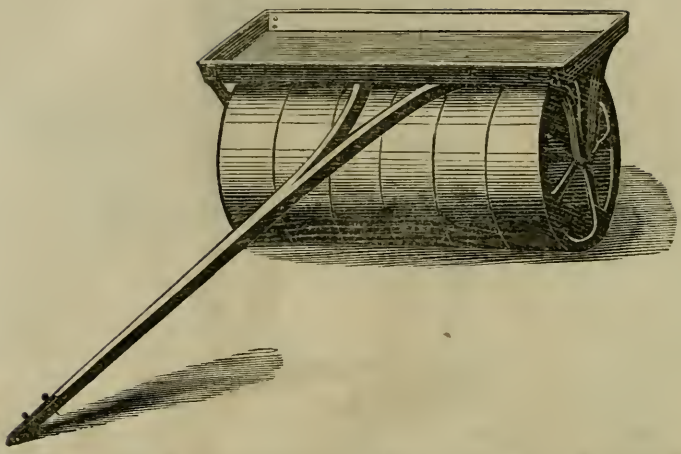
Fig. 130 represents our Wooden-box Corn-sheller with iron hopper. They will shell from 100 to 200 bushels per day, with one hand. These Shellers are very much used in the South, the hoppers being made large, to receive the large Southern corn.

NO. 131.—PRUNING AND BUDDING KNIVES.



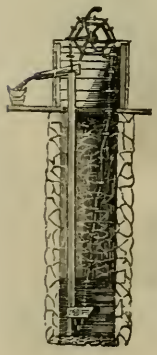
Figs. 2, 3, and 4 are heavy-made, convenient knives, for pruning young trees. Fig. 1 is a perfect instrument for budding: it shuts up, like a common knife, for the pocket. Attached to the end of the handle is a thin flat ivory slip, to loosen the bark to receive the bud.

NO. 132.—ROLLERS.

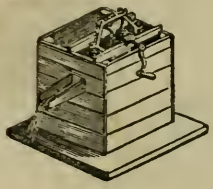


These instruments are fast coming into general use, and are of great utility for pressing the earth about the seed, thereby insuring a more speedy germination, as also in preparing the surface for reaping or mowing instruments, by producing a perfectly level surface. On sandy soil they are invaluable. No. 132 represents the Iron Cylinder Roller manufactured by us. It is composed of separate sections, of a foot in length, turning independently of each other on a wrought-iron shaft. They can be used with from three to six sections. The box is of wood, made to increase the weight, or as a deposit for stones, &c., picked up in crossing the field. We make them of all weights and sizes.

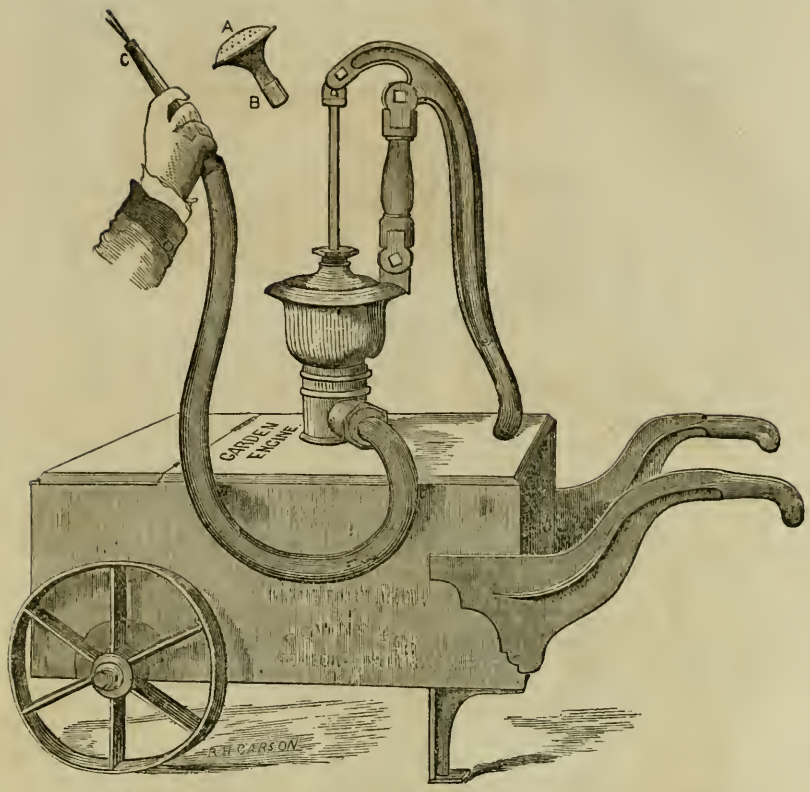
No. 133.—CHAIN PUMPS.



This pump combines four great requisites—simplicity of construction, ease in working, economy, and impossibility of freezing in winter. It works admirably for any depth under 26 feet. It is highly praised by all who have given it a trial.



No. 134.—GARDEN ENGINE.

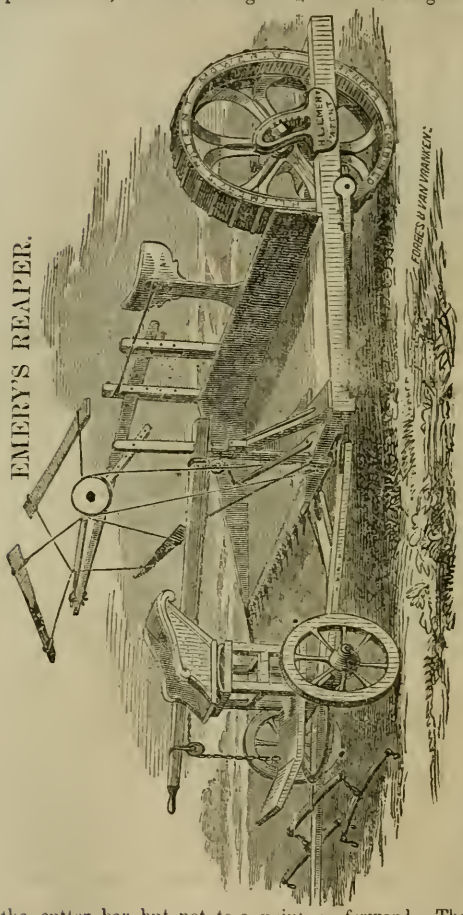


No. 134 represents a superior Garden Engine. It can be moved and managed by one man, for all the purposes of its intention, as easily as a wheel-barrow, and will be found highly useful in not only supplying Gardens and Nurseries with regular showers in times of drought, but also for showering Trees and Plants, and for the destruction of Worms, which may be made effectual by an admixture of *Sulphur with the water*. For washing side-walks, also, and windows, and for the extinguishment of fires, it presents additional claims; and, rightly considered, may be regarded as a most indispensable article of usefulness and security. The box will contain about 50 gallons of water, and is placed on cast iron wheels, with handles, as represented in the cut.

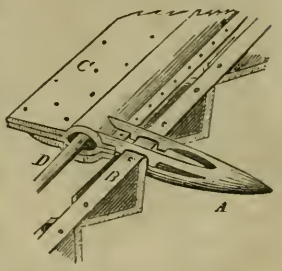
No. 135.—EMERY'S MOWER AND REAPER

The accompanying engravings represent the general construction and principle details of an invention of H. L. Emery, of a Reaping and Mowing Machine, combined in one. Its main features will appear from the cuts and descriptions. As will readily be seen, it is provided with a driver's seat and wheels, independent of the machine itself, but attached by hinges in such a manner as to allow any easy

action and adjustment, while this method does away entirely with all the side draft. The machine itself is provided with a large main wheel, being about forty inches in diameter and eight inches face, with the necessary projections on its surface. This wheel is cast with an internal gearing at one side of the spokes, the teeth of which are protected from dirt, and strengthened, by a deep flange of nearly three inches. The main frame is suspended from this wheel, by means of adjustable pinion boxes, the boxes being hung inside of hangers attached to the frame itself.



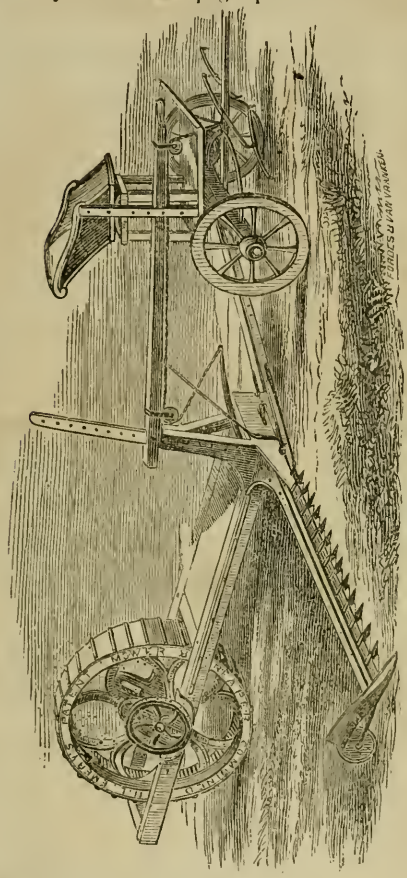
The frame itself may be raised or lowered to any desired point, by means of sliding boxes inside the circular hangers, where it is confined by a simple iron key. The motion of the cutters is obtained by the connecting rod, passing along the outside of the fame to the fore end, where it connects with an elbow or knee iron. The other end of the elbow extends through to the front of the main frame, and is confined in position by a heavy, substantial bed-plate of iron.



This cut represents a transverse section of the iron finger bar, with a section of the cutter bar, cutters, and dividers. B represents the cutter bar, to which the steel blades are attached on its under side, the bevel of the blades being upon the upper side and sickle edge. These blades also extend back of the cutter bar, but not to a point, as forward. The edges of this rear part are same as forward the cutter bar, and serve to cut and clear all the "clog" or fibre which may possibly escape the forward cut, and become drawn into the dividers. D represents a section of the crank axle, which extends through the hollow finger bar, and supports its outer end. C represents the finger bar with attachments. A represents the divider, showing the openings and guides through which the cutters pass. This divider is made very true, with sharp corners, over which the cutters

pass, forming a perfect shears-cutting action. These dividers are wider than on most other machines, thus protecting the cutters from being injured by stones getting between them, (the spaces being less than two inches,) and compressing the grass or grain into a more dense body while being cut; the divider fitting round the under side, forming a strong tubular finger bar.

Through this finger bar a shaft is passed, and at its extreme end it is turned at right angles to the rear of the beam about two feet, and a castor wheel attached to its rear end to support the outer end of the bar—thus forming a crank shaft, or axle, as seen at D. At the inner end of this shaft is attached an iron crank or lever about three feet long, extending upward with a strap or chain attached to it. This strap extends along the main lever to the driver's seat, and is controlled at pleasure by the driver. This main lever, which is seen passing the driver's seat, is made permanent to the machine itself, and is kept in any position, or elevation desired, by means of an upright post beside the seat, with a series of catches and latch. The whole machine containing but one gear and pinion, and that an internal one, with the frame itself so suspended upon the axis of the main wheel, as to be elevated and depressed at pleasure, a horizontal or inclined (forward or back) position of the whole machine, at whatever elevation used, can instantly be attained, and retaining the cutting works in proper position. In reaping, an apron or movable platform is used, being made with a strong frame work and light covering of wood and tin. The raker stands erect, face forward, directly behind it. The delivery is at one side, and has a slight elevation above the cutters, about two inches above the stubble, and is over four feet wide. The engravings here represent both Reaper and Mower as being drawn by a forward axle and wheels, with driver's seat, as this arrangement is chiefly to obviate the side draft on the horses in cutting heavy grass and grain. They may, at the same time, and often are, more conveniently used without the forward wheels; as where the grass or grain is light, fields small or very uneven surface, as a simple tongue is all that is required, permitting the horses to be hitched closely up to the machine itself as less room and time is required in turning.



EMERY'S MOWER.

DOMESTIC ANIMALS.

Breeding animals can be furnished by us, in all their varieties, from the best stocks in the country. All orders should be sent a reasonable time in advance of the fall months, to give us time to select and get the stock in proper condition for shipping South. The fall months are the proper season for shipping, as the animals become acclimated much sooner than when sent out in the spring.

Among **CATTLE**, for either beef or milking, we would recommend the Durham. They can be sent South from six months to sixteen months old. Good animals range in price from $100 to $200.

SHEEP.—Fine wooled Saxons can be furnished—Ewes from $5 to $15; Bucks, from $15 to $30. Their fleeces are smaller than the Merino, but much finer. Merinos can be furnished at all prices. Rambouiletts, from $50 to $150. Native Merinoes, from $5 to $40 each. South Downs, for mutton, from $15 to $25 each.

SWINE.—The breed most in favor for shipping South is the Berkshire. These, with many other varieties, we can furnish at from $20 to $30 a pair. They should be shipped at from four to six months old.

GRASSES AND CLOVERS.

Blue Grass
Herds Grass, or Red Top
Lucerne
Orchard Grass
Ray Grass
Red Clover
Tall Oat Grass
Timothy
White Clover.

In **GARDEN SEED** our assortment is complete, as will be seen by the following list:

TURNIP, Early Flat Dutch or Spring
Early Snowball
Early Red-Top Flat
Early Garden Stone
Red and White Top Strap-leaf
Large Flat
Large English Norfolk
Pomeranian White Globe
Long White, or Cow-horn
Long Tankard, or Hanover
Yellow Stone, or Orange
Yellow Aberdeen, or Bullock
Long Yellow French
Purple-top Ruta Baga
MELON, Green Citron
Nutmeg
Pine Apple
Skillman's Fine Netted
Persian
Large Yellow Cantaloup
Large Musk
Long Island Water
Mountain Sprout
Citron Water, for preserves
LETTUCE, Early Curled Silesia
Early White Cabbage
Brown Dutch
Large Green Head
Fine Imperial Cabbage
Brown Silesia Head
Large India
Butter, or Summer
Ice Coss
Paris Green Coss
Fine Mixed Lettuces
CABBAGE, Early York or June
Early French Oxheart
Early Sugar-loaf
Early Flat Battersea
Large York
Large Drumhead Winter

CABBAGE—continued:
Large Flat Dutch
Large Bergen, or American
St. Denis Drumhead
True Green Glazed
Green Globe Savoy
Fine Drumhead Savoy
Red Dutch
Kohl Rabbi
ENGLISH BEANS, Windsor
Early Long Pod.
DWARF BEANS, Early China
Early Valentine
Early Yellow Six Weeks
Early Mohawk
Large White Kidney
Refugee, or Thousand to One.
POLE BEANS, Dutch Case Knife
Horticultural Cranberry
Large Lima
Saba or Carolina Lima
Scarlet Runner
White Dutch Runner
Red and White Cranberry
BEET, Best Early Blood Turnip
Early Yellow Turnip
Early Scarcity
Long Blood Red
Smooth Long Dark Blood
White Sugar
Mangel Wurtzel
PEAS, Early Warwick
Early Frame or June
Early Washington
Early Charlton
Early Double Blossom
Dwarf Blue Imperial
Large White Marrowfat
Dwarf Marrowfat
Green Marrowfat

ARTICHOKE, Green Globe
ASPARAGUS, Giant
BROCOLI, Early White
Early Purple
Large Purple Cape
White Cape, or Cauliflower
Chappell's New Cream Colored
BRUSSELS SPROUTS
CAULIFLOWER, Early London
Large Late
CARROT, Early Horn
Long Orange
Altringham
Large White Field
CELERY, White Solid
New Silver Giant
Large Manchester Red
COLEWORTH, or Collards
CORN SALAD, or Fetticus
CRESS, Curled, or Peppergrass
Broad Leaf
Water, or Winter
CUCUMBER, Early Frame
Early Cluster
Early White Spine (very fine)
Short Prickly
London Long Green
Extra Long Green Turkey
Gherkin, or West India
EGG PLANT, Purple
ENDIVE, Green Curled
Broad Leaved Batavia
CORN, Sweet or Sugar
Early Tuscarora
Early White Flint
KALE, Green Curled Scotch
Sea
LEEK, Large Scotch or Flag
London
MUSTARD, White or English
MUSTARD, Brown
NASTURTIUM
ONION, Wethersfield, Large Red
Yellow Dutch
Yellow Silver Skin
White Portugal
OKRA, Green and White
PARSLEY, Plain or Common
Curled, or Double
PARSNIP, Long Smooth
PEPPER, Cherry
Long, or Cayenne
Tomato-shaped, or Squash
Large Bull-nose
Large Sweet Spanish
PUMPKIN, Connecticut Field
Large Cheese
RADISH, Wood's Early Frame
Early Short-top Long Scarlet
Long Salmon
Early Scarlet Turnip
White Turnip
Yellow Turnip
Black Fall Spanish
RAPE, for Greens
RHUBARB, Early Tobolsk
Myatt's Victoria
SPINACH, Round or Summer
Prickly or Fall
SALSIFY, or Vegetable Oyster
SQUASH, Early Yellow Bush Scollop
Early White Bush Scollop
Early Bush Summer Crookneck
Green Striped Bergen
Fall, or Winter Crookneck
Autumnal Marrow
Lima Cocoanut
TOMATO, Large Smooth, Red
Large Yellow
Small Yellow